Pioneer sound.vision.soul

Service Manual

ORDER NO.
RRV2584

DVD RECEIVER

XV-HTD320

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Region No.	Remarks
	XV-HTD320			
KUCXJ	◯	AC120V	1	

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Remarks
XV-HTD510/KUXJ	RRV2452	

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
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T – ZZK FEB. 2002 Printed in Japan

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on product are used for disassembly.*
● *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

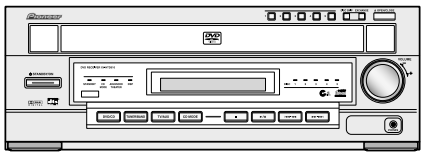
■ CONTRAST TABLE

XV-HTD320/KUCXJ and XV-HTD510/KUXJ are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			XV-HTD510 /KUXJ	XV-HTD320 /KUCXJ	
		PACKING SECTION			
P3- 3		Video Cord (L=1.5m)	VDE1053	VDE1065	
P3- 4		Remote Control Unit	XXD3033	XXD3032	
P3- 9		Packing Case	XHD3171	XHD3298	
P3-13		Operating Instructions (English)	XRB3009	Not used	
P3-14		Operating Instructions (English, French)	Not used	XRE3061	
		EXTERIOR SECTION			
	NSP	Energy Star Label	Not used	AAX7876	
	NSP	Name Label	Not used	XAL3119	*1
	NSP	UPC Label	Not used	XAX3322	
		FRONT PANEL SECTION			
P6- 5	NSP	Front Panel Assy	XXG3070	XXG3125	
P6- 7		Display Panel	XAK3213	XAK3337	

*1 Stick Name Label on the Rear Panel.

Service Manual



ORDER NO.
RRV2452

DVD RECEIVER

XV-HTD510
XV-HTD510-B

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model		Power Requirement	Region No.	Remarks
	XV-HTD510	XV-HTD510-B			
KUXJ	◯	–	AC120V	1	
KCXJ	◯	–	AC120V	1	
KUCXJ	–	◯	AC120V	1	

● **This product is component of system.**

Component		System		Service Manual	Remarks
DVD SURROUND SYSTEM		————	————	————	
	DVD RECEIVER	XV-HTD510	XV-HTD510-B	RRV2452	This service manual
	SPEAKER SYSTEM	S-HTD510	S-HTD510-B	RRV2444	

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PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

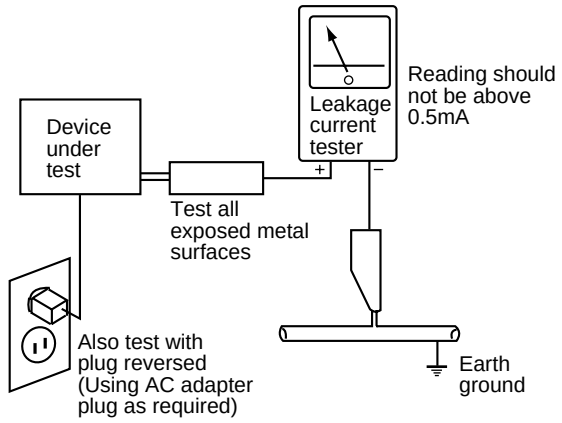
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
+
–
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

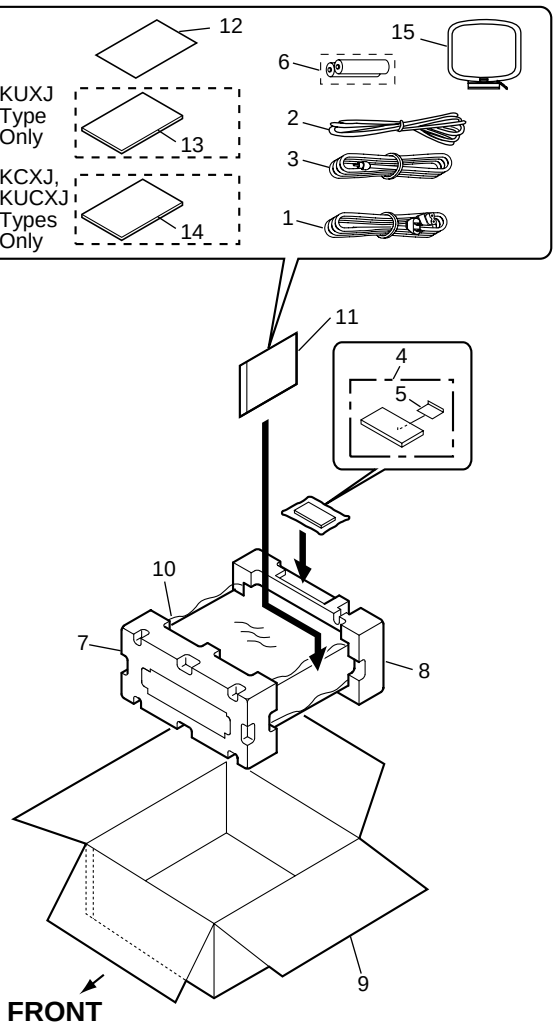
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on the product are used for disassembly.*

2.1 PACKING



(1) PACKING PARTS LIST

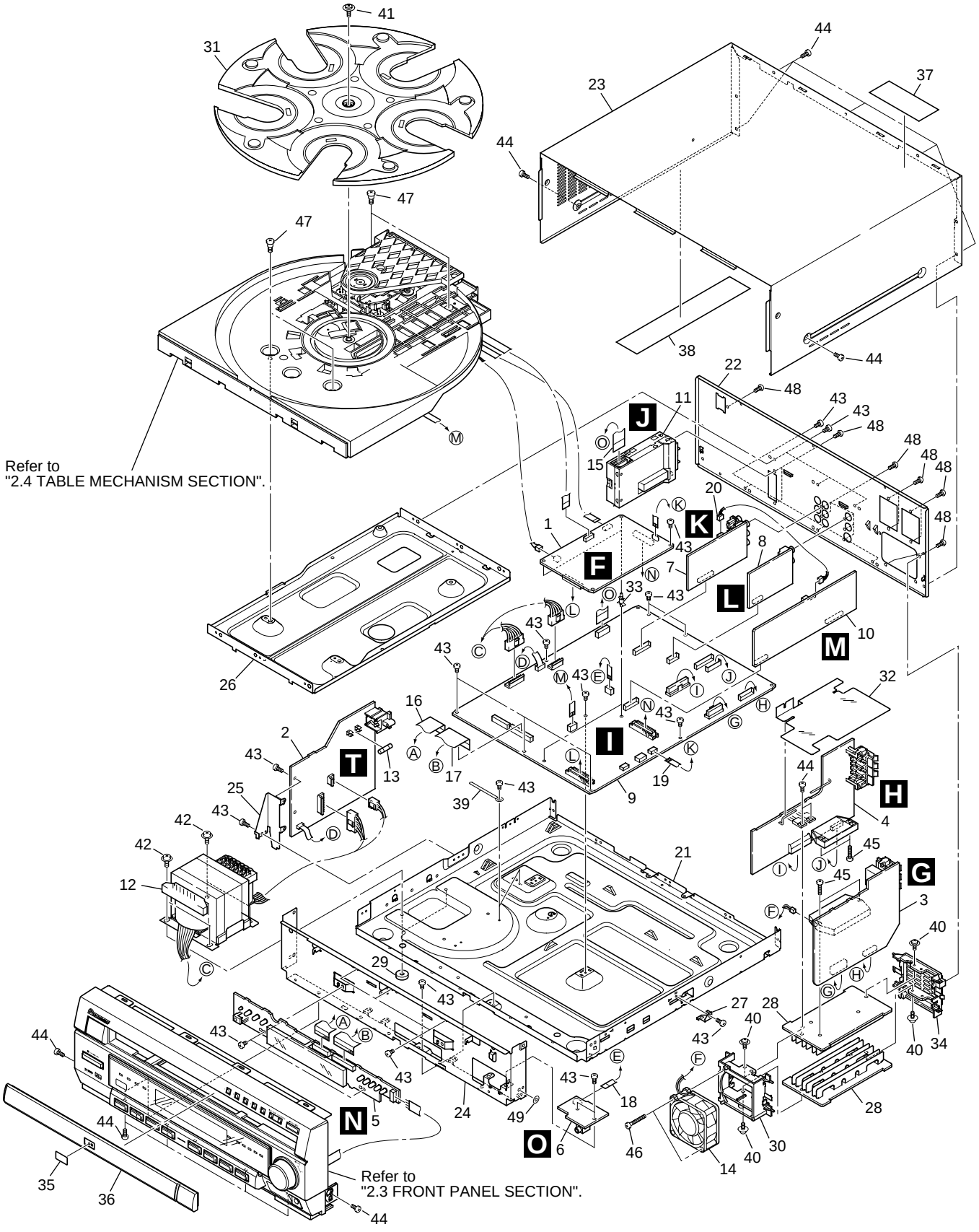
Mark	No.	Description	Part No.
⚠	1	Power Cord	ADG7022
	2	FM Antenna	ADH7004
	3	Video Cord (L = 1.5m)	VDE1053
	4	Remote Control Unit	See Contrast table (2)
	5	Battery Cover	XZN3117
NSP	6	Dry Cell Battery (R6P, AA)	VEM-013
	7	Pad F	XHA3124
	8	Pad R	XHA3125
	9	Packing Case	See Contrast table (2)
	10	Packing Sheet	AHG7010
NSP	11	Polyethylene Bag	Z21-038
NSP	12	Warranty Card	ARY7045
	13	Operating Instructions (English)	See Contrast table (2)
	14	Operating Instructions (English/French)	See Contrast table (2)
	15	AM Loop Antenna	ATB7009

(2) CONTRAST TABLE

XV-HTD510/KUXJ, KCXJ and XV-HTD510-B/KUCXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			XV-HTD510 /KUXJ	XV-HTD510 /KCXJ	XV-HTD510-B /KUCXJ	
	4	Remote Control Unit	XXD3033	XXD3033	XXD3032	DSP Button
	9	Packing Case	XHD3171	XHD3171	XHD3192	
	13	Operating Instructions (English)	XRB3009	Not used	Not used	
	14	Operating Instructions (English/French)	Not used	XRE3039	XRE3039	

2.2 EXTERIOR


Refer to
"2.4 TABLE MECHANISM SECTION".
Refer to
"2.3 FRONT PANEL SECTION".

(1) EXTERIOR PARTS LIST

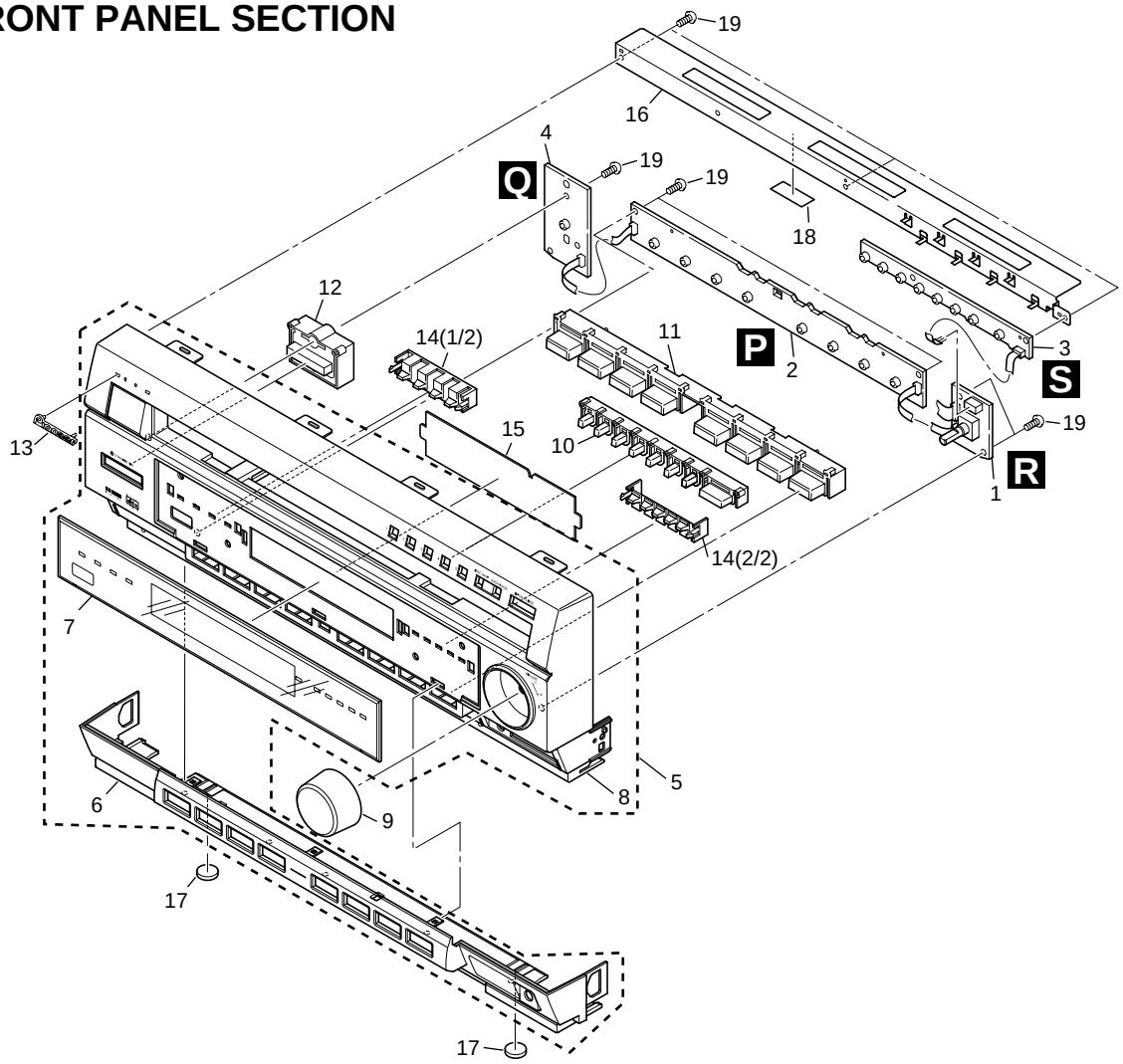
Mark	No.	Description	Part No.
	1	DVDM Assy	XWX3034
	2	PRIMARY Assy	XWZ3432
	3	FRONT AMP Assy	XWZ3438
	4	REAR AMP Assy	XWZ3442
	5	DISPLAY Assy	XWZ3446
	6	MIC HP Assy	XWZ3450
	7	INPUT Assy	XWZ3455
	8	VIDEO Assy	XWZ3459
	9	MAIN Assy	XWX3030
	10	DSP Assy	XWX3040
	11	TUNER MODULE	AXQ7228
⚠	12	T1 Power Transformer	XTS3051
⚠	13	FU1 Fuse (5A)	REK1067
	14	DC Fan Motor	AXM7014
	15	13P F.F.C/60V (MAIN CN5701 – TUNER CN201)	XDD3089
	16	19P F.F.C/60V (MAIN CN5509 – DISPLAY CN5801)	XDD3090
	17	27P F.F.C/60V (MAIN CN5511 – DISPLAY CN5802)	XDD3091
	18	5P F.F.C/60V (MAIN CN5501 – MIC HP CN5807)	XDD3093
	19	7P F.F.C/60V (MAIN CN8902 – DVDM CN55)	XDD3094
	20	Connector Assy 3P (INPUT CN5207 – DSP CN3703)	XDE3041
NSP	21	Chassis	XNA3008
	22	Rear Panel	See Contrast table (2)
	23	Bonnet Case	See Contrast table (2)
	24	Front Frame	XNG3056
	25	PCB Angle	XNG3057
	26	Mecha Frame	XNG3059
	27	DV Bracket	XNG3064
	28	Heat Sink	XNH3021
NSP	29	Spacer	XEB3019
	30	Fan Mold	AMR7321
	31	Rotary Tray	VNK4739
	32	Barrier H	XEC3016
NSP	33	PCB Support	XEC3020
	34	Rear Mold	XMR3038
	35	DVDV Badge	XAM3003
	36	Tray Cap	See Contrast table (2)
	37	65 Label	ARW7050
NSP	38	Large Label	XAX3217
	39	Cord Clamper	RNH-184
	40	Screw	ABA1021
	41	Screw	ABA7069
	42	Screw	ASZ40P060FMC
	43	Screw	BBZ30P060FMC
	44	Screw	BBZ30P080FZK
	45	Screw	BBZ30P160FMC
	46	Screw	BPZ30P350FZK
	47	Screw	PBA1106
	48	Screw	VPZ30P080FZK
	49	Washer	VEC1254

(2) CONTRAST TABLE

XV-HTD510/KUXJ, KCXJ and XV-HTD510-B/KUCXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			XV-HTD510 /KUXJ	XV-HTD510 /KCXJ	XV-HTD510-B /KUCXJ	
	22	Rear Panel	XNC3094	XNC3094	XNC3097	
	23	Bonnet Case	XZN3118	XZN3118	XZN3119	
	36	Tray Cap	XAN3032	XAN3032	XAN3033	

2.3 FRONT PANEL SECTION



(1) FRONT PANEL SECTION PARTS LIST

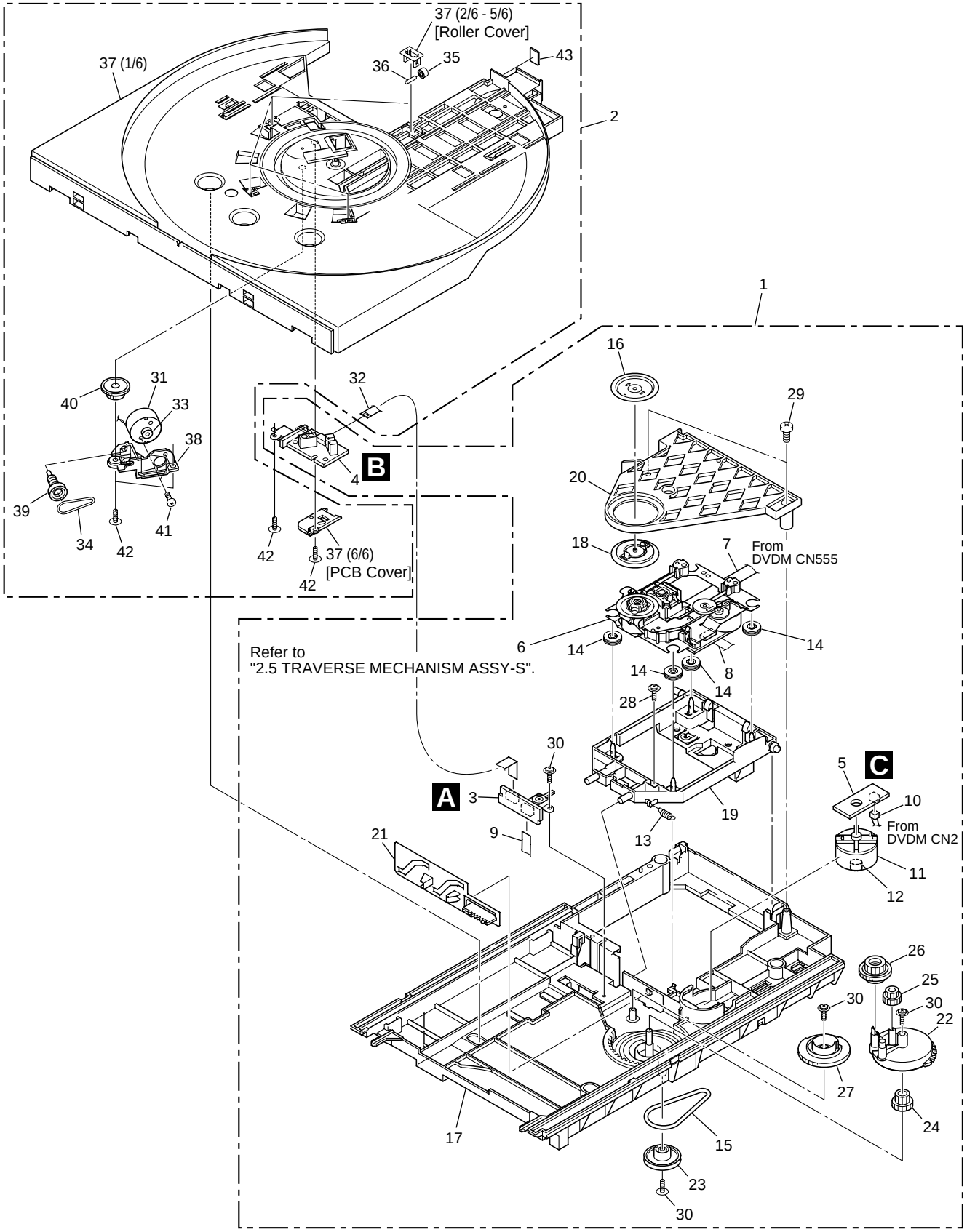
Mark	No.	Description	Part No.
NSP	1	JOG Assy	XWZ3448
	2	KEYB Assy	XWZ3447
NSP	3	DISC KEY Assy	XWZ3449
NSP	4	STBY SWITCH Assy	XWZ3453
NSP	5	Front Panel Assy	See Contrast table (2)
	6	Front Cap	See Contrast table (2)
	7	Display Panel	See Contrast table (2)
	8	Front Panel	See Contrast table (2)
	9	Volume Knob	See Contrast table (2)
	10	Disc Button	See Contrast table (2)
	11	Function Button	See Contrast table (2)
	12	Power Button	See Contrast table (2)
	13	Pioneer Badge	XAM3001
	14	Lens	XAX3216
	15	FL Filter	XEC3015
	16	Top Frame	XNG3063
	17	Leg	AEB7090
NSP	18	Small Label	XAX3291
	19	Screw	VPZ30P080FZK

(2) CONTRAST TABLE

XV-HTD510/KUXJ, KCXJ and XV-HTD510-B/KUCXJ are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			XV-HTD510 /KUXJ	XV-HTD510 /KCXJ	XV-HTD510-B /KUCXJ	
NSP	5	Front Panel Assy	XXG3070	XXG3070	XXG3071	
	6	Front Cap	XAK3212	XAK3212	XAK3227	
	7	Display Panel	XAK3213	XAK3213	XAK3229	
	8	Front Panel	XMB3047	XMB3047	XMB3048	
	9	Volume Knob	XAA3020	XAA3020	XAA3021	
	10	Disc Button	XAD3093	XAD3093	XAD3099	
	11	Function Button	XAD3100	XAD3100	XAD3094	
	12	power Button	XAD3101	XAD3101	XAD3095	

2.4 TABLE MECHANISM SECTION

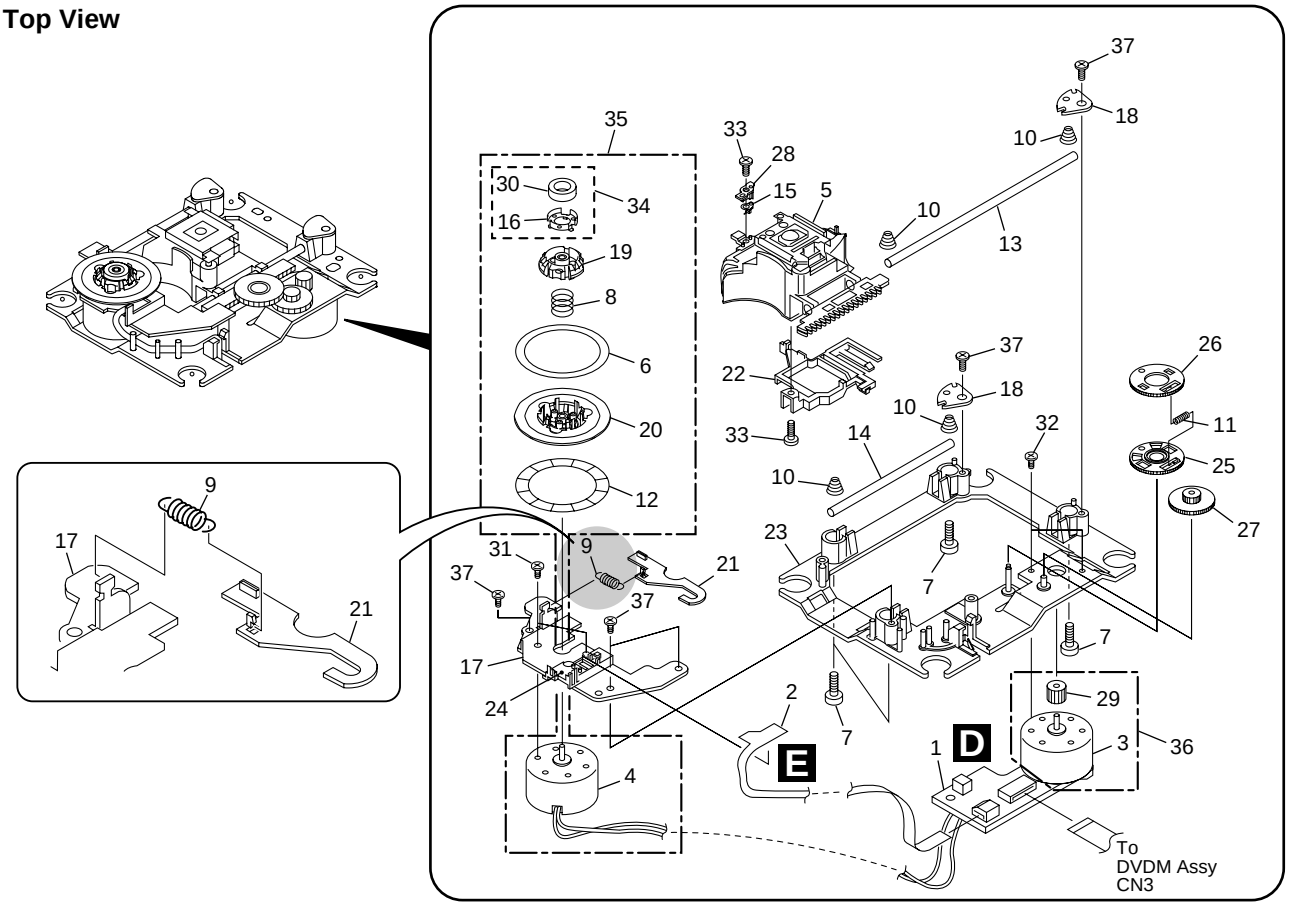


● TABLE MECHANISM SECTION PARTS LIST

Mark	No.	Description	Part No.
NSP	1	5C Mech. Base Assy	XXA3027
NSP	2	5C Table Mech. Assy	VWT1175
NSP	3	TRSB Assy	XWZ3461
NSP	4	SSRB Assy	XWZ3462
NSP	5	LOMB Assy	XWZ3463
	6	Traverse Mechanism Assy-S	VXX2653
	7	Flexible Cable 24P	XDD3074
	8	Flexible Cable 8P (T)	XDD3075
	9	Flexible Cable 8P (M)	XDD3076
	10	Housing Assy 2P	XDE3039
	11	Slider Motor (LOADING)	VXM1033
	12	Motor Pulley	PNW1634
	13	Spring	VBH1333
	14	Floating Rubber	VEB1286
	15	Load Belt	VEB1316
	16	Clamper Plate	VNE2162
	17	Mechanism Base	VNK4826
	18	Clamper	VNL1738
	19	Float Base	VNL1907
	20	Clamper Holder	VNL1872
	21	Clamp Cam	VNL1873
	22	Planet Base	VNL1874
	23	Gear Pulley	VNL1876
	24	Loading Gear (1)	VNL1877
	25	Loading Gear (2)	VNL1908
	26	Drive Gear	VNL1879
	27	Change Gear	VNL1904
	28	Screw	ABA7009
	29	Screw	BPZ30P080FMC
	30	Screw	Z39-019
	31	Motor (TRAY)	DXM1118
	32	Flexible Cable (7P)	VDA1835
	33	Motor Pulley	PNW1634
	34	Tray Belt	VEB1317
	35	Rubber Roller	VEB1318
	36	Roller Shaft	VLL1511
	37	Slide Table	VNK4751
	38	Motor Holder	VNL1880
	39	Worm Gear	VNL1881
	40	Tray Gear	VNL1882
	41	Screw	JGZ17P028FMC
	42	Screw	Z39-019
	43	CR Cushion 2	XEB3020

2.5 TRAVERSE MECHANISM ASSY-S

• **Top View**

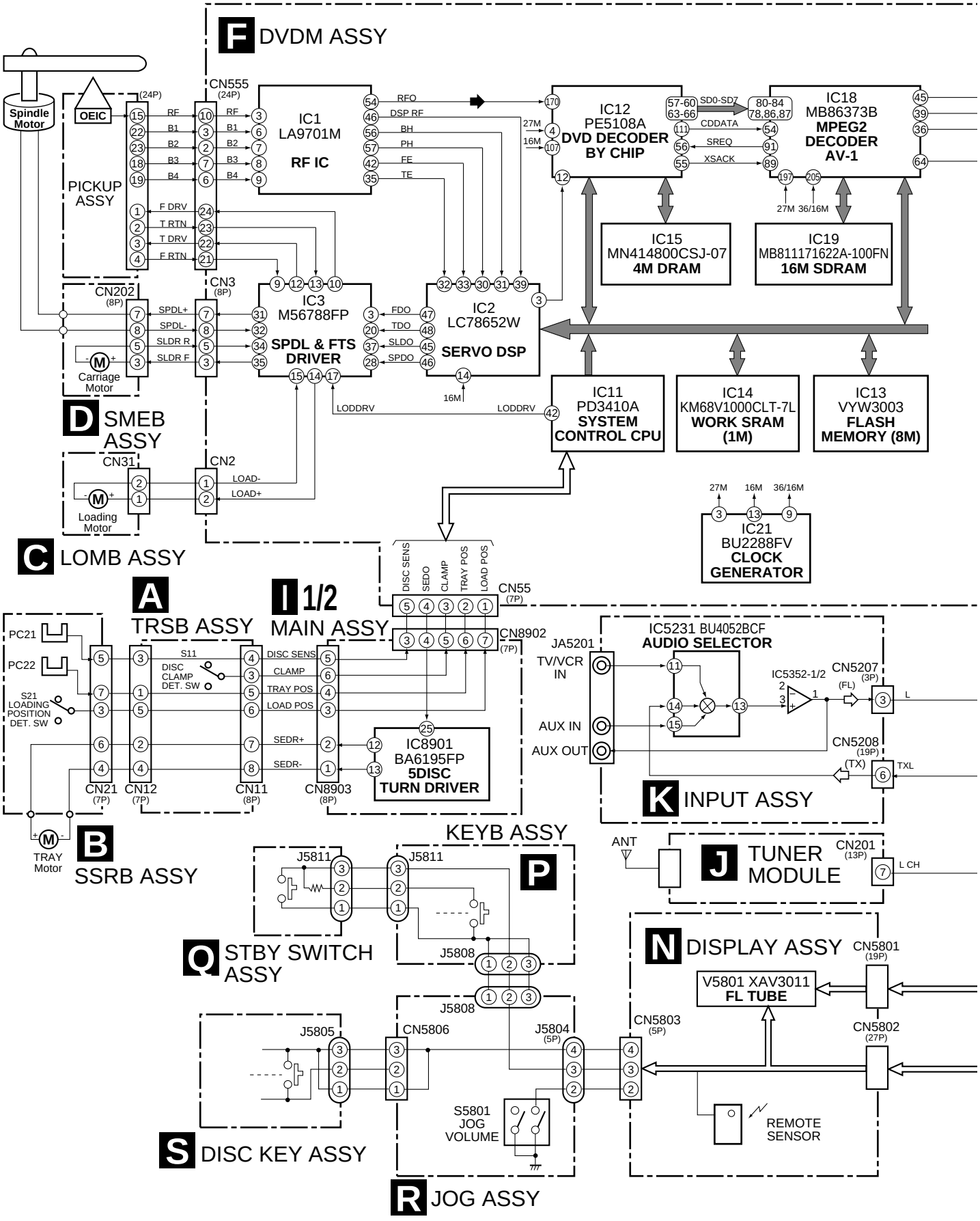


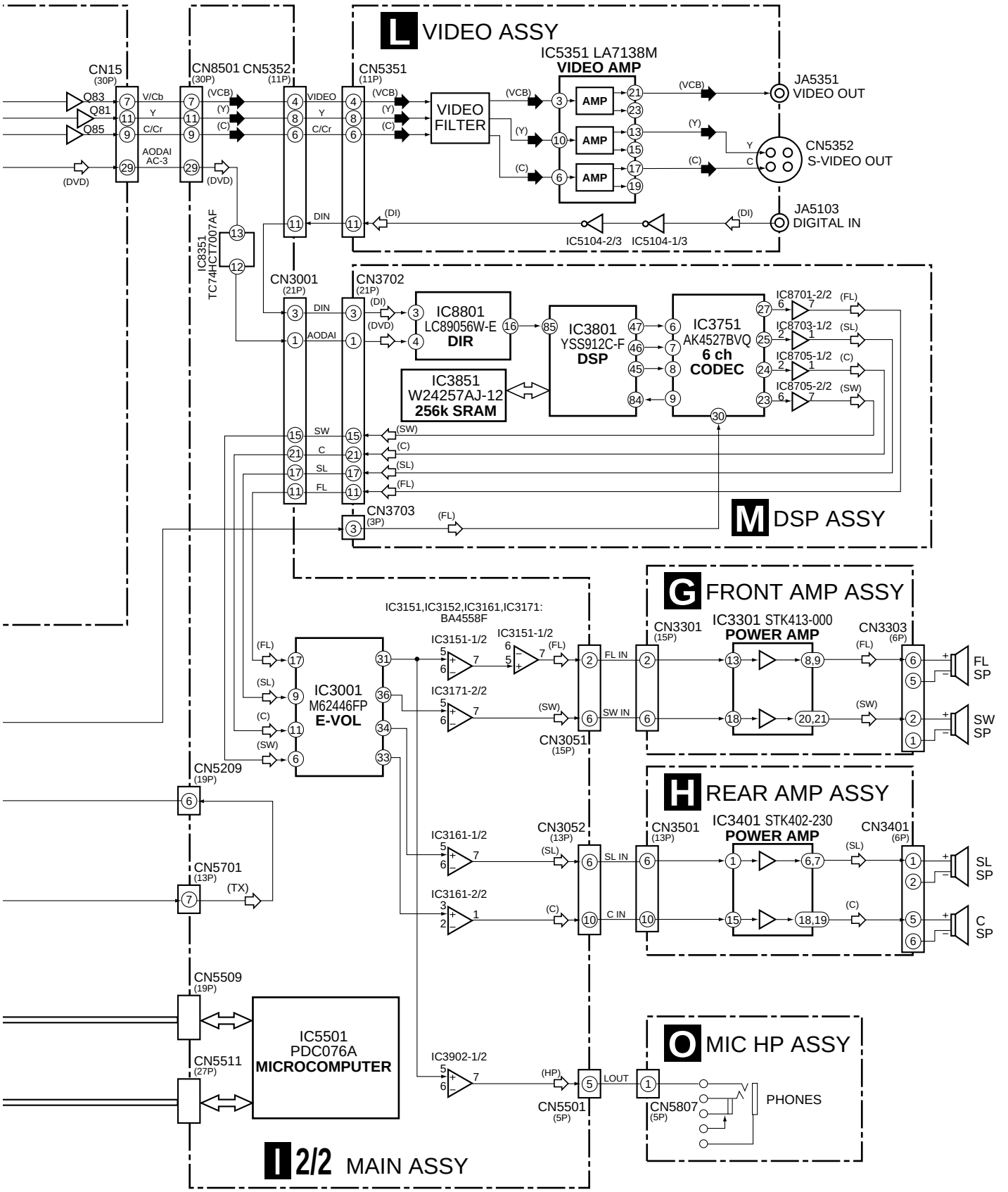
● TRAVERSE MECHANISM ASSY-S PARTS LIST

Mark	No.	Description	Part No.
NSP	1	SMEB Assy	VWG2048
NSP	2	FGSB Assy	VWG2009
NSP	3	Motor (CARRIAGE)	VXM1079
NSP	4	Motor (SPINDLE)	VXM1084
⚠ NSP	5	Pickup Assy	VWY1055
	6	Table Sheet	DEC2040
	7	Screw	VBA1058
	8	Centering Spring	VBH1278
	9	Hook Spring	VBH1317
	10	Skew Spring	VBH1303
	11	Gear Spring	VBH1308
NSP	12	Reflected Sheet	VEC1959
	13	Guide Bar	VLL1504
	14	Sub-guide Bar	VLL1505
	15	Hold Spring	VNC1017
NSP	16	Magnet Holder	VNE2070
NSP	17	Motor Base	VNE2154
NSP	18	Cover	VNE2155
	19	Centering Ring	VNL1746
NSP	20	Disc Table	VNL1747
	21	Hook	VNL1770
	22	FFC Holder	VNL1802
	23	Mechanism Base	VNL1806
	24	FG Holder	VNL1807
	25	Gear A	VNL1808
	26	Gear B	VNL1809
	27	Gear C	VNL1810
	28	Slider	VNL1811
	29	Gear D	VNL1814
NSP	30	Magnet	VYM1024
	31	Screw	JFZ17P025FZK
	32	Screw	JGZ17P028FMC
	33	Screw	VBA1051
	34	Magnet Holder Assy	VXX2507
	35	Spindle Motor Assy	VXX2649
	36	Carriage Motor Assy	VXX2650
	37	Screw	PBA1069

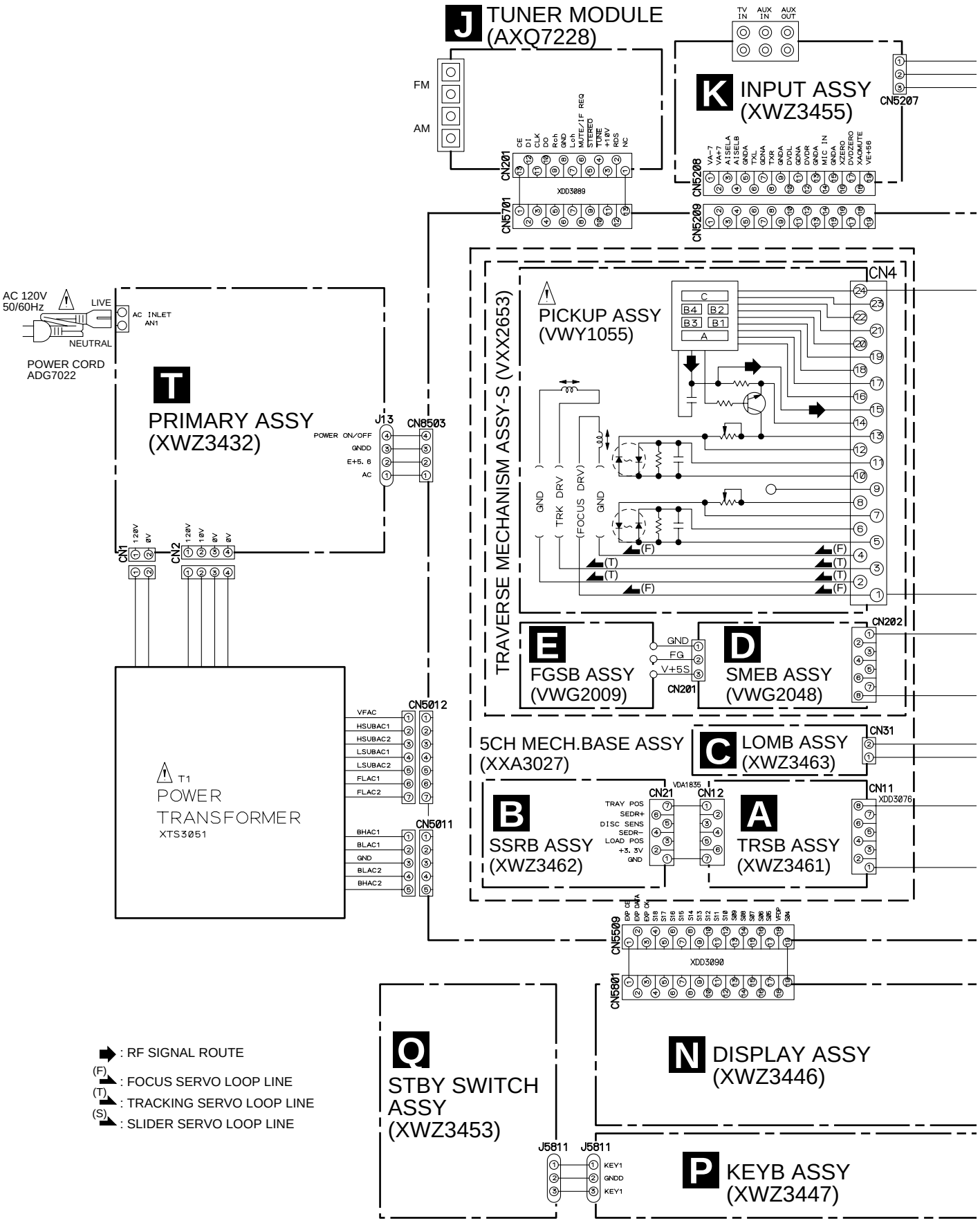
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

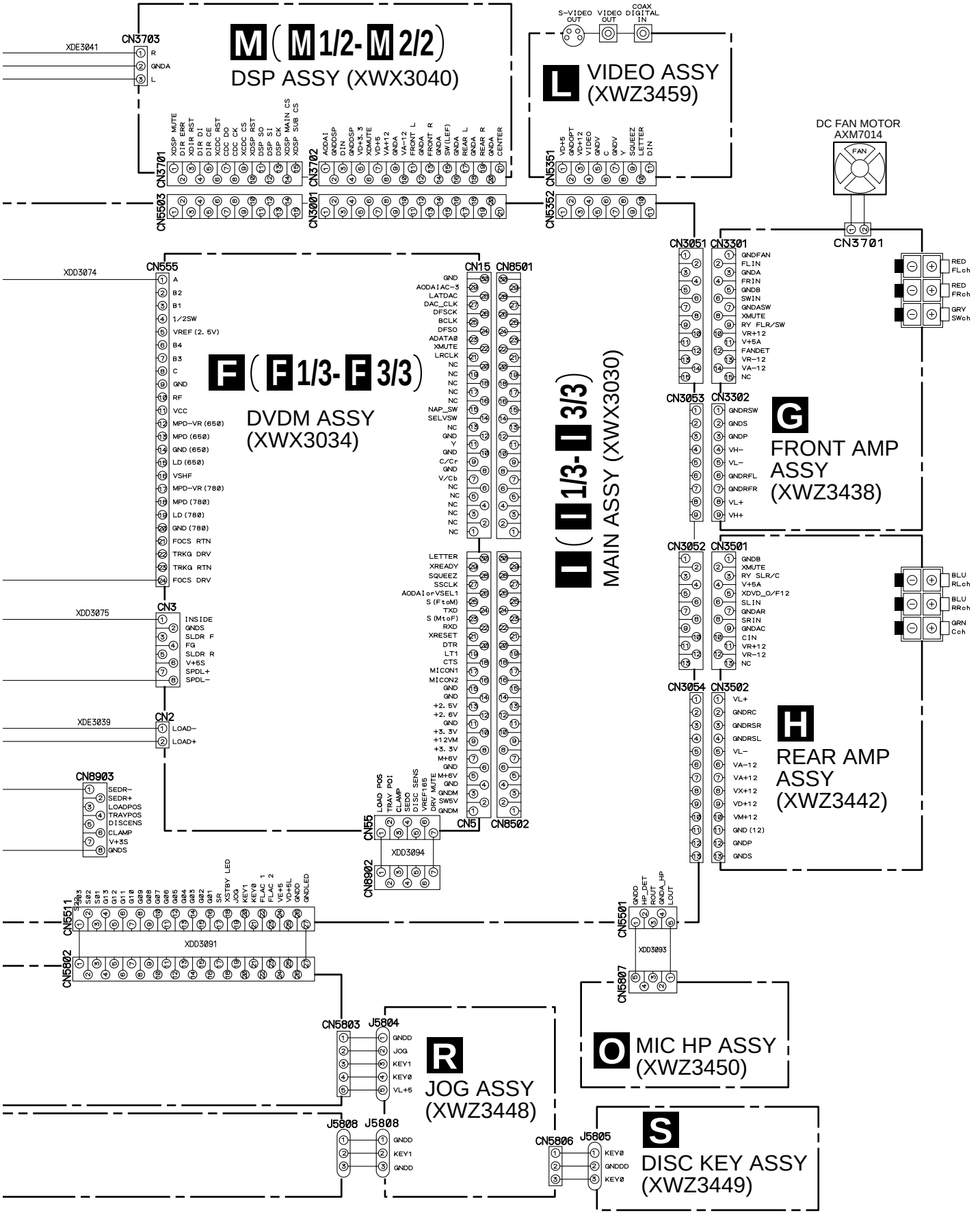



L VIDEO ASSY
IC5351 LA7138M
VIDEO AMP
CN15
(30P)
CN8501
(30P)
CN5352
(11P)
CN5351
(11P)
Q83
Q81
Q85
V/Cb
Y
C/Cr
AODAI
AC-3
(DVD)
VIDEO
FILTER
AMP
JA5351
VIDEO OUT
CN5352
S-VIDEO OUT
JA5103
DIGITAL IN
IC5104-2/3
IC5104-1/3
IC8351
TC74HCT7007AF
CN3001
(21P)
CN3702
(21P)
IC8801
LC89056W-E
DIR
IC3801
YSS912C-F
DSP
IC3751
AK4527BVQ
6 ch
CODEC
IC3851
W24257AJ-12
256k SRAM
IC8701-2/2
IC8703-1/2
IC8705-1/2
IC8705-2/2
CN3703
(3P)
M DSP ASSY
IC3151,IC3152,IC3161,IC3171:
BA4558F
IC3001
M62446FP
E-VOL
G FRONT AMP ASSY
CN3301
(15P)
IC3301 STK413-000
POWER AMP
CN3303
(6P)
FL IN
SW IN
CN3051
(15P)
FL SP
SW SP
CN5209
(19P)
CN5701
(13P)
H REAR AMP ASSY
CN3501
(13P)
IC3401 STK402-230
POWER AMP
CN3401
(6P)
CN3052
(13P)
SL IN
C IN
SL SP
C SP
CN5509
(19P)
CN5511
(27P)
IC5501
PDC076A
MICROCOMPUTER
O MIC HP ASSY
LOUT
CN5501
(5P)
CN5807
(5P)
PHONES
I 2/2 MAIN ASSY
(VCB) : VCB SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(DVD) : DVD AUDIO SIGNAL ROUTE
(DI) : DI AUDIO SIGNAL ROUTE
(FL) : FL AUDIO SIGNAL ROUTE
(HP) : HP AUDIO SIGNAL ROUTE
(SL) : SL AUDIO SIGNAL ROUTE
(C) : C AUDIO SIGNAL ROUTE
(SW) : SW AUDIO SIGNAL ROUTE
(TX) : TX AUDIO SIGNAL ROUTE

3.2 OVERALL WIRING DIAGRAM

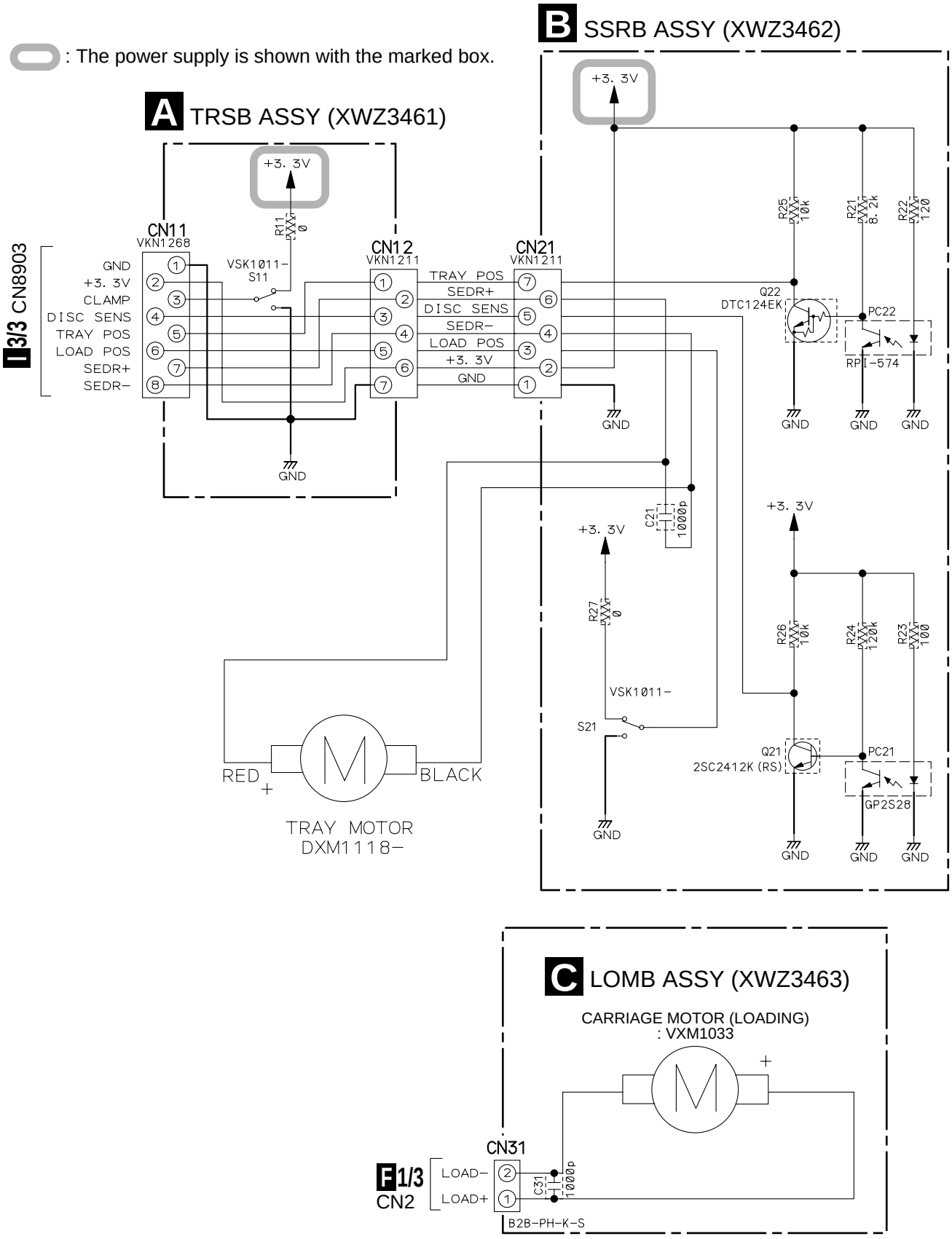


Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".

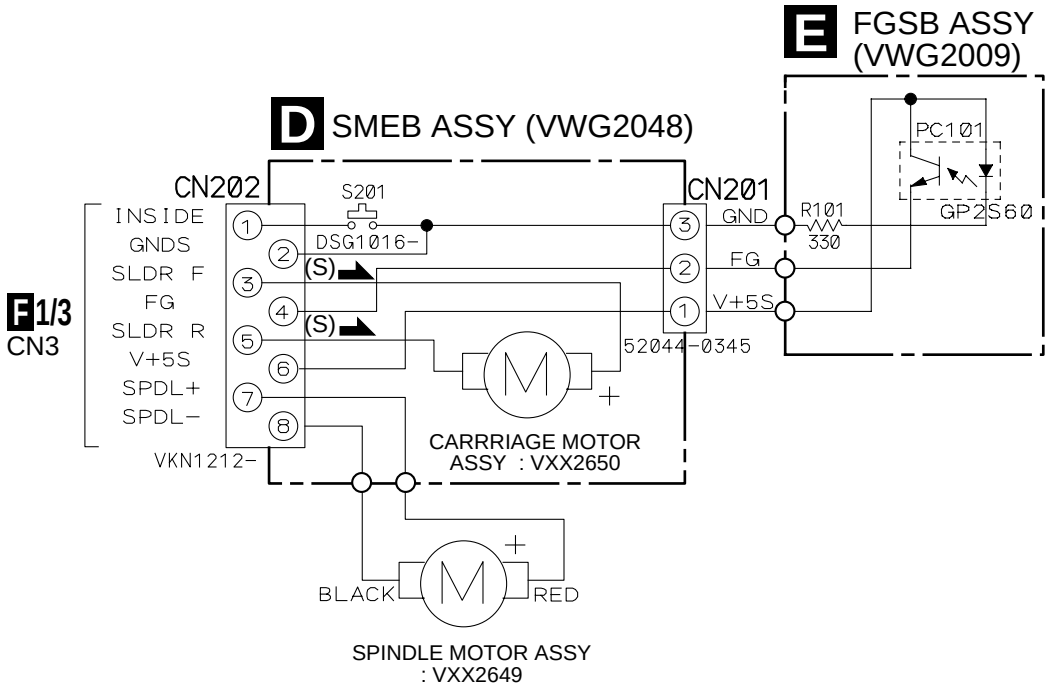


3.3 TRSB, SSRB, LOMB, SMEB and FGSB ASSYS

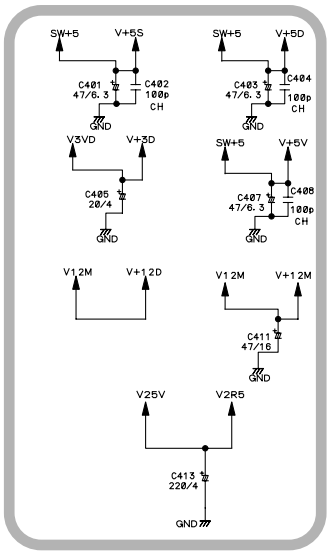
: The power supply is shown with the marked box.



(S) : SLIDER SERVO LOOP LINE

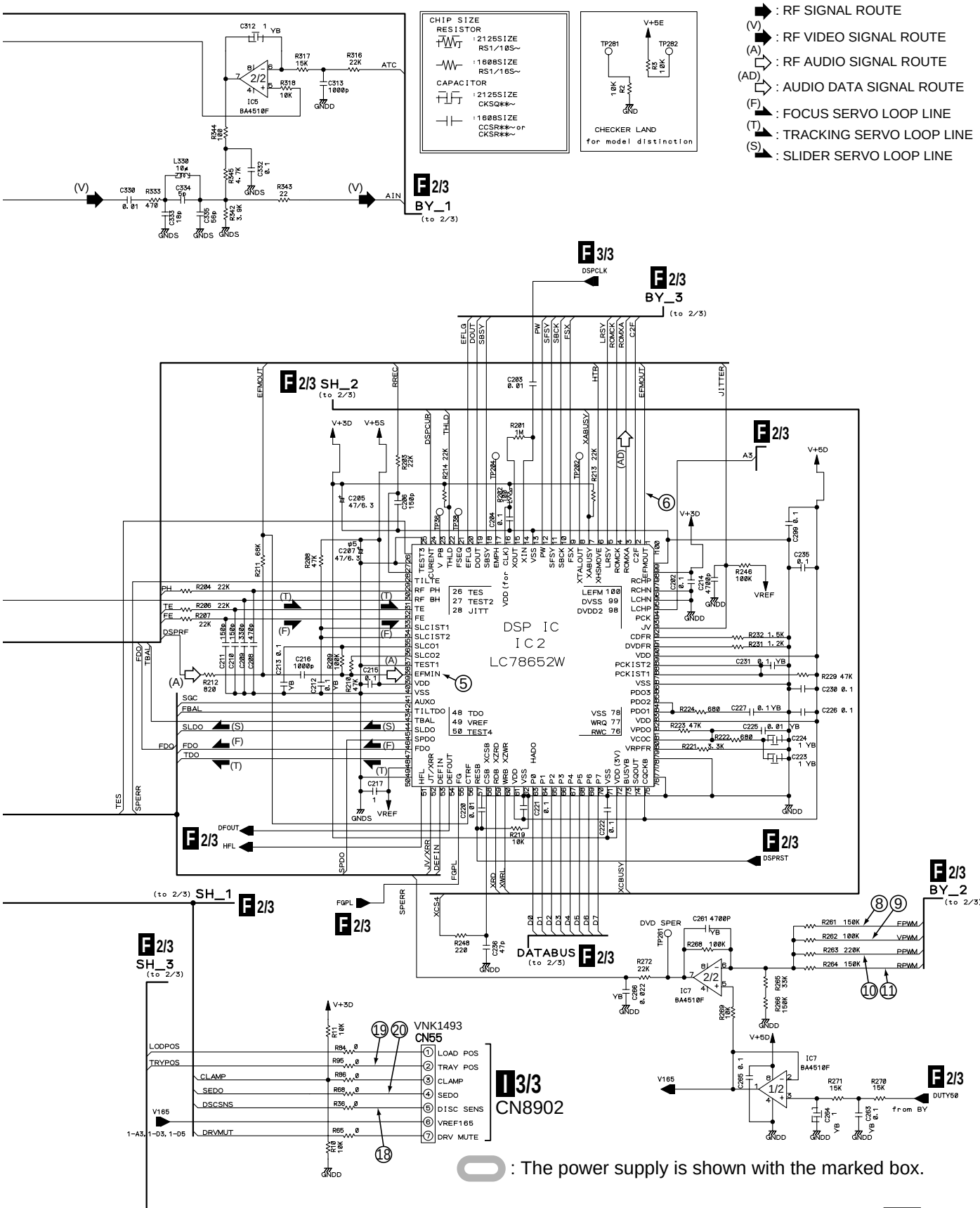


3.4 DVDM ASSY (1/3)

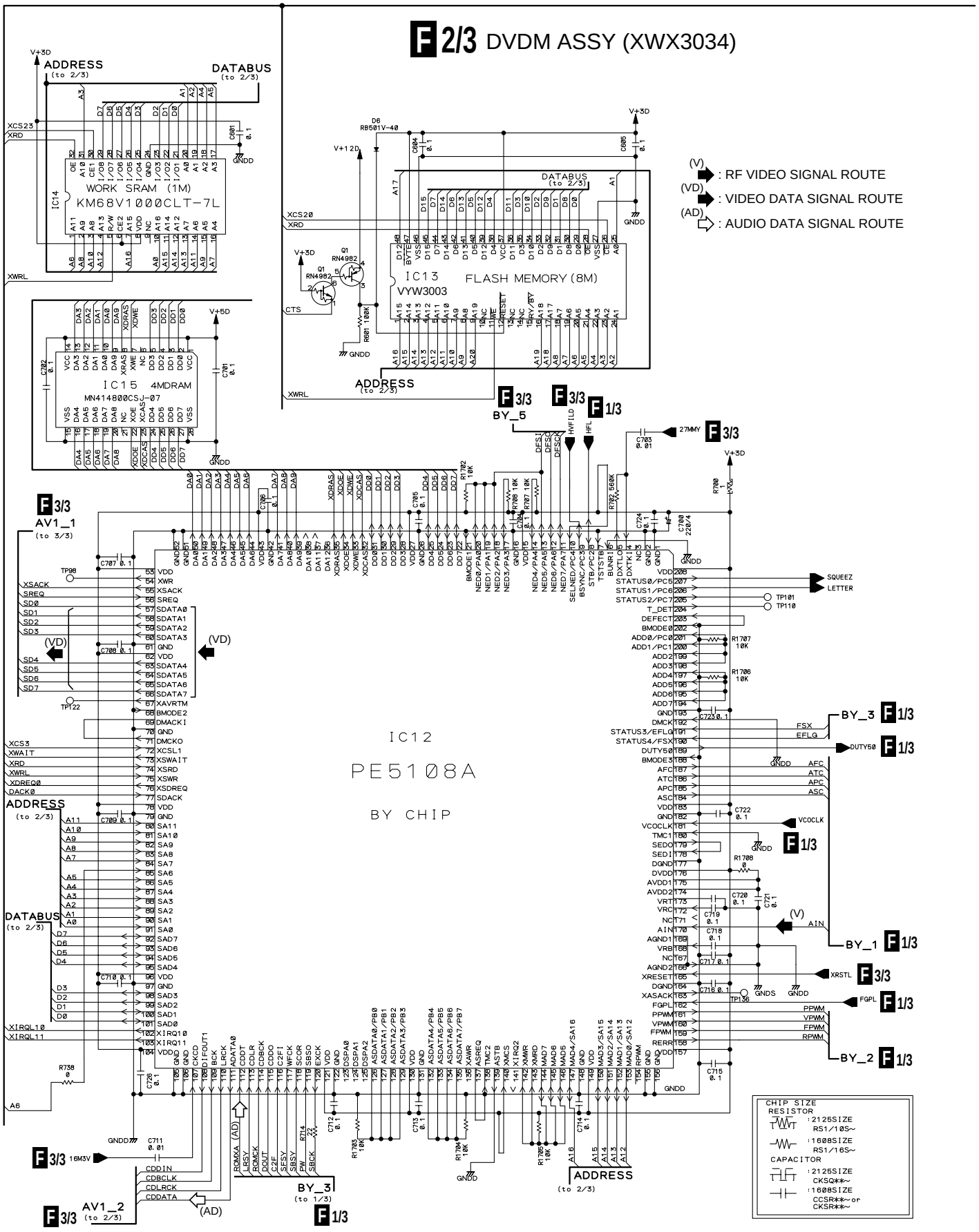


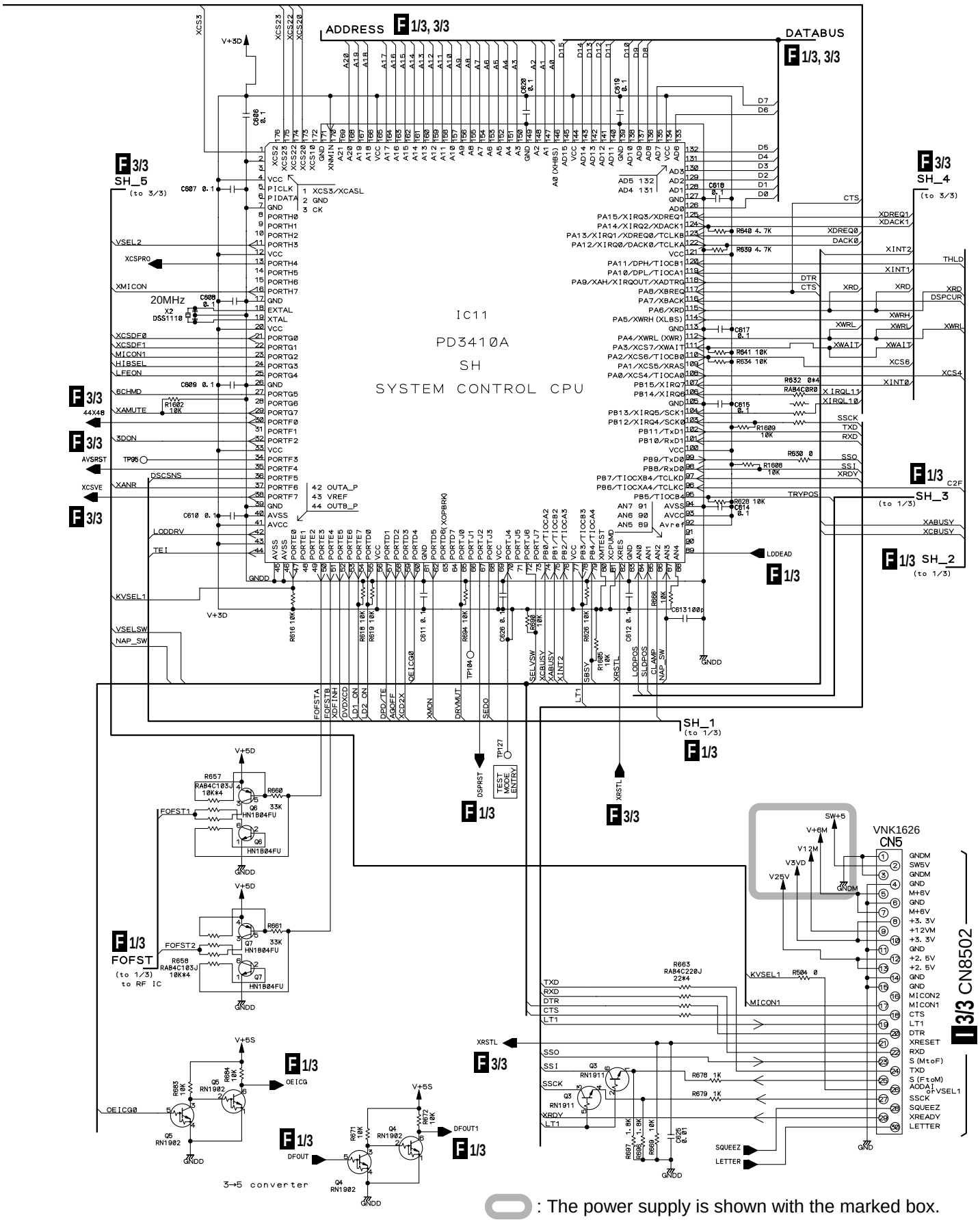
F 2/3 VCOCLK
27M to BY CHIP
F 2/3 SH_1 (to 2/3)
DVDXCD
XCD2X
F 2/3 FOFST (from 2/3)
FOFST1
FOFST2
F 2/3 OEICG
F 2/3 LDDEAD
F 2/3 FGPL
F 2/3 DFOUT1
F 2/3 TBAL
F 2/3 TE
F 2/3 FE
F 2/3 RREC
F 2/3 DSPRF
F 2/3 JITTER
F 2/3 PH
F 2/3 BH
F 2/3 RFO
F 2/3 AFC
F 2/3 ASC
F 2/3 VREF
F 2/3 TEI
F 2/3 XDFINH
F 2/3 XMON
F 2/3 DRVMUT
F 2/3 DEFIN
F 2/3 SLDO
F 2/3 LOADO
F 2/3 TDO
F 2/3 FDO
F 2/3 LODDRV
F 2/3 F_RTN
F 2/3 T_DRV
F 2/3 T_RTN
F 2/3 F_DRV
F 2/3 LOADP
F 2/3 LOADM
F 2/3 SPDL+
F 2/3 SPDL-
F 2/3 SLDR_F
F 2/3 SLDR_R
F 2/3 SLDPOS
F 2/3 LODPOS
to BY CHIP
checker chip

F 1/3 DVDM ASSY (XWX3034)

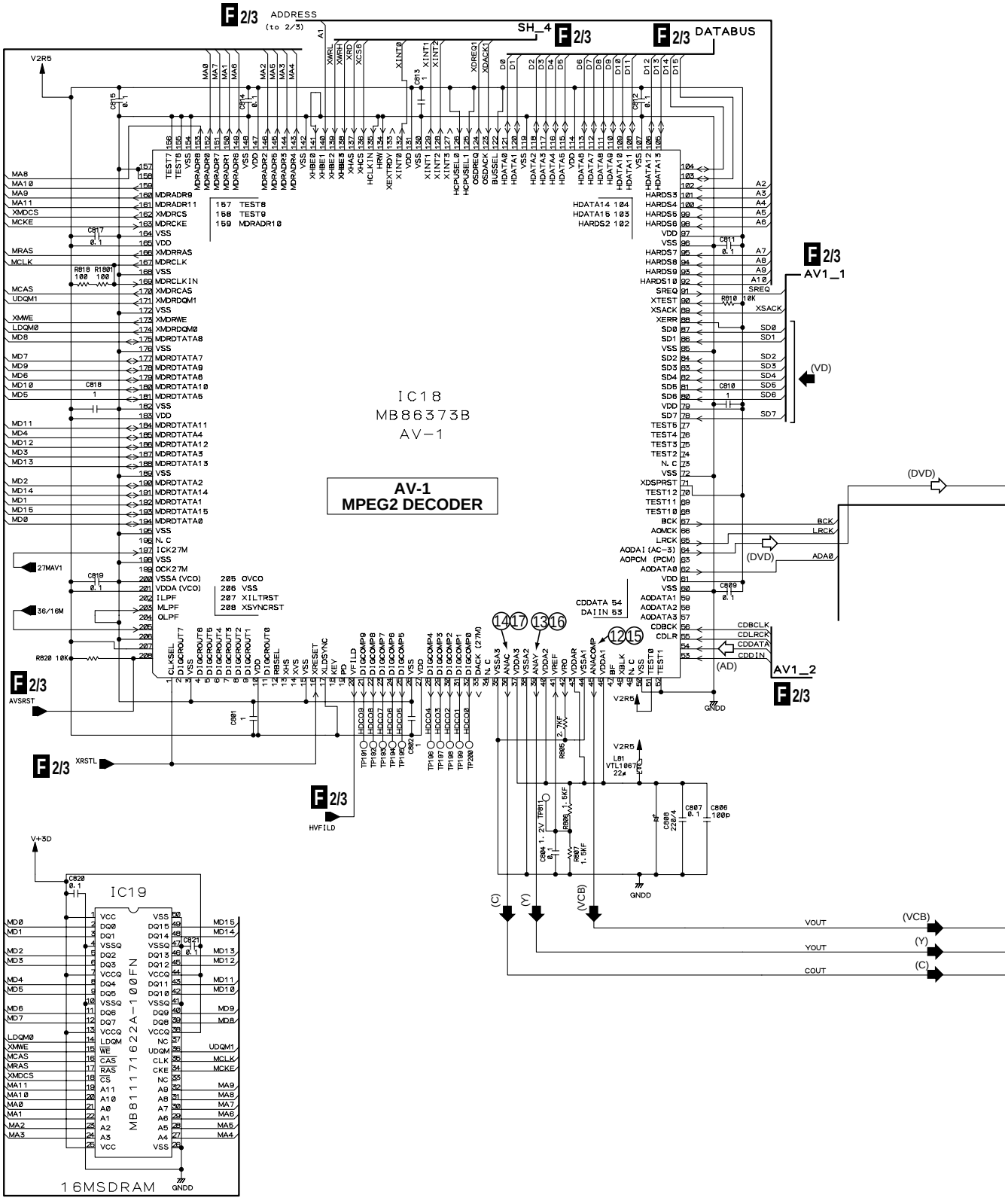


3.5 DVDM ASSY (2/3)

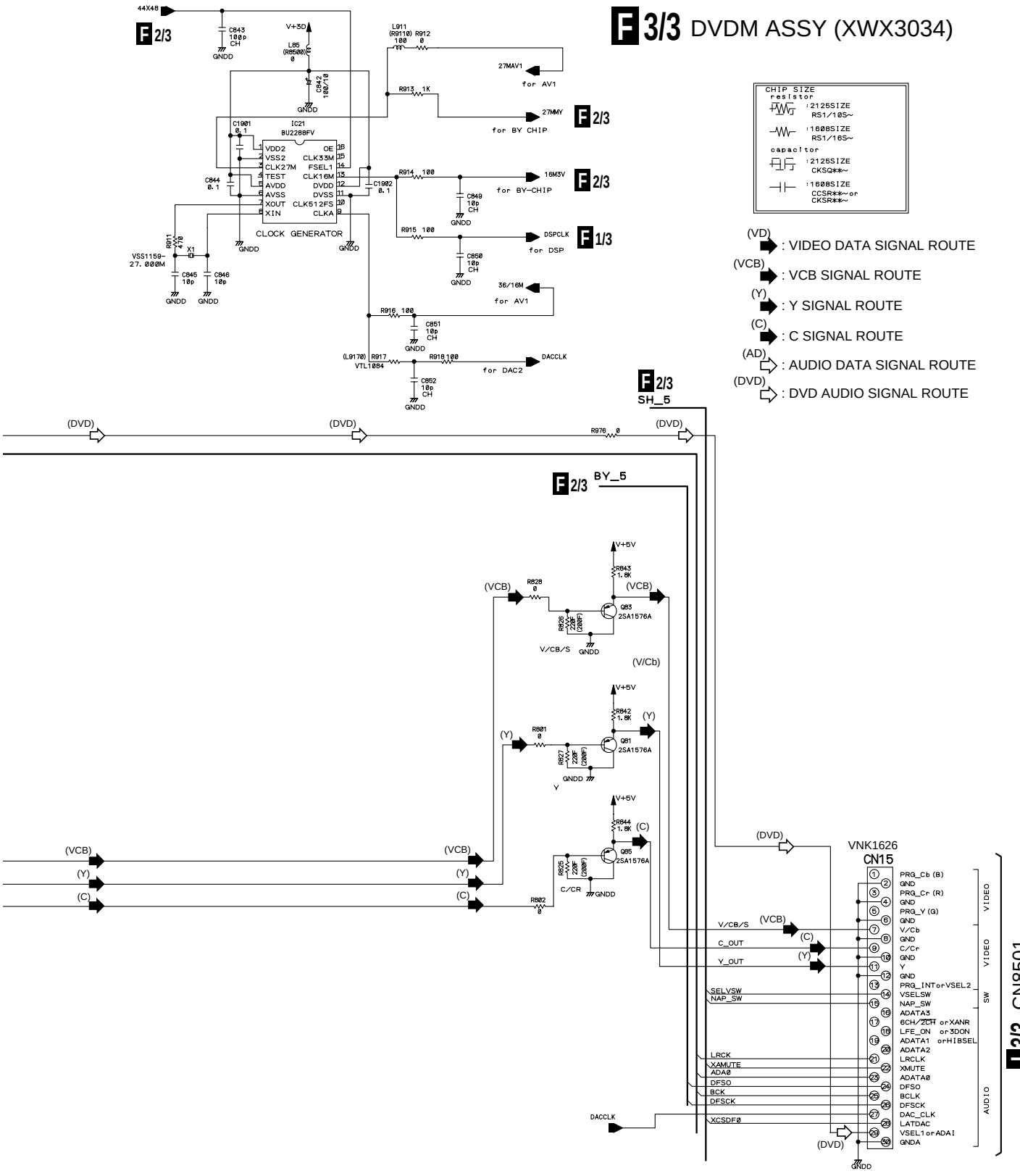



ADDRESS F 1/3, 3/3
DATABUS F 1/3, 3/3
IC11
PD3410A
SH
SYSTEM CONTROL CPU
20MHz
X2
DSS1110
F 3/3 SH_5 (to 3/3)
F 3/3 SH_4 (to 3/3)
F 1/3 C2F SH_3 (to 1/3)
F 1/3 SH_2 (to 1/3)
SH_1 (to 1/3)
F 1/3
F 3/3
VNK1626
CN5
CN8502
FOFST (to 1/3) to RF IC
3→5 converter
: The power supply is shown with the marked box.

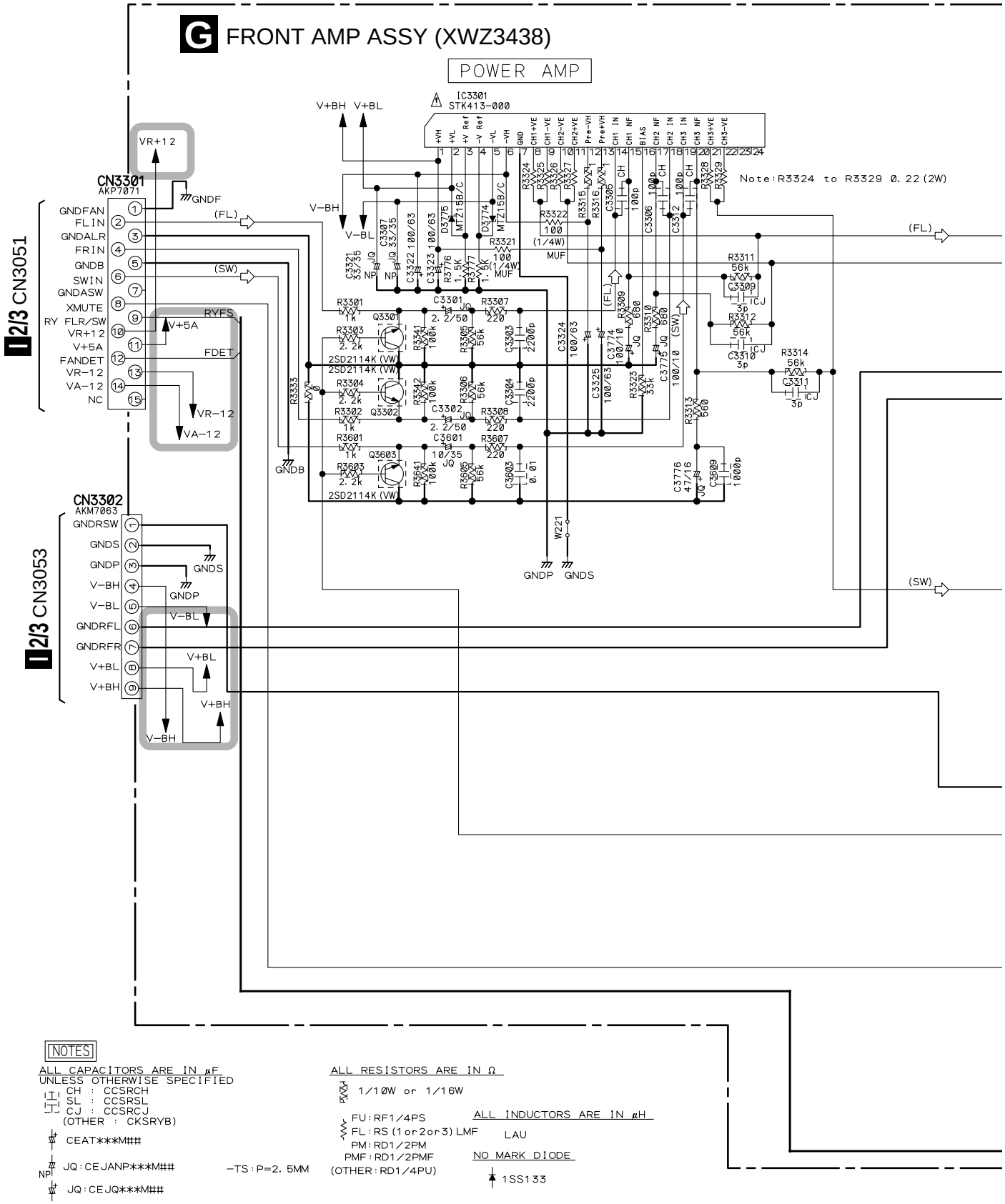
3.6 DVDM ASSY (3/3)



F 3/3 DVDM ASSY (XWX3034)



3.7 FRONT AMP ASSY



NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH
SL : CCSRSL
CJ : CCSRCJ
(OTHER : CKSRYB)

CEAT***M##

JQ : CEJANP***M##

NP

JQ : CEJQ***M##

–TS : P=2.5MM

ALL RESISTORS ARE IN Ω

1/10W or 1/16W

FU : RF1/4PS
FL : RS(1or2or3)LMF
PM : RD1/2PM
PMF : RD1/2PMF
(OTHER : RD1/4PU)

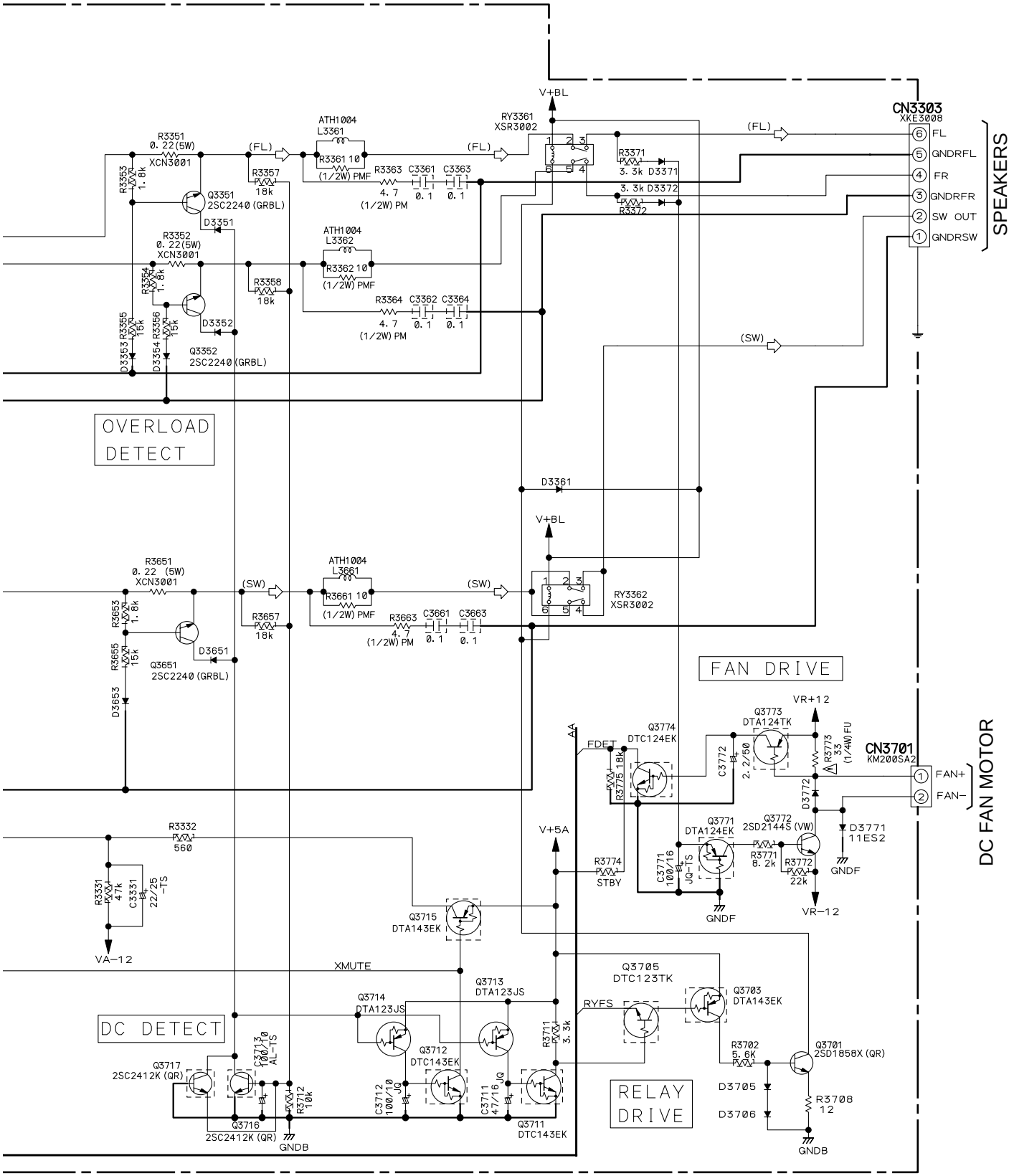
ALL INDUCTORS ARE IN μH

LAU

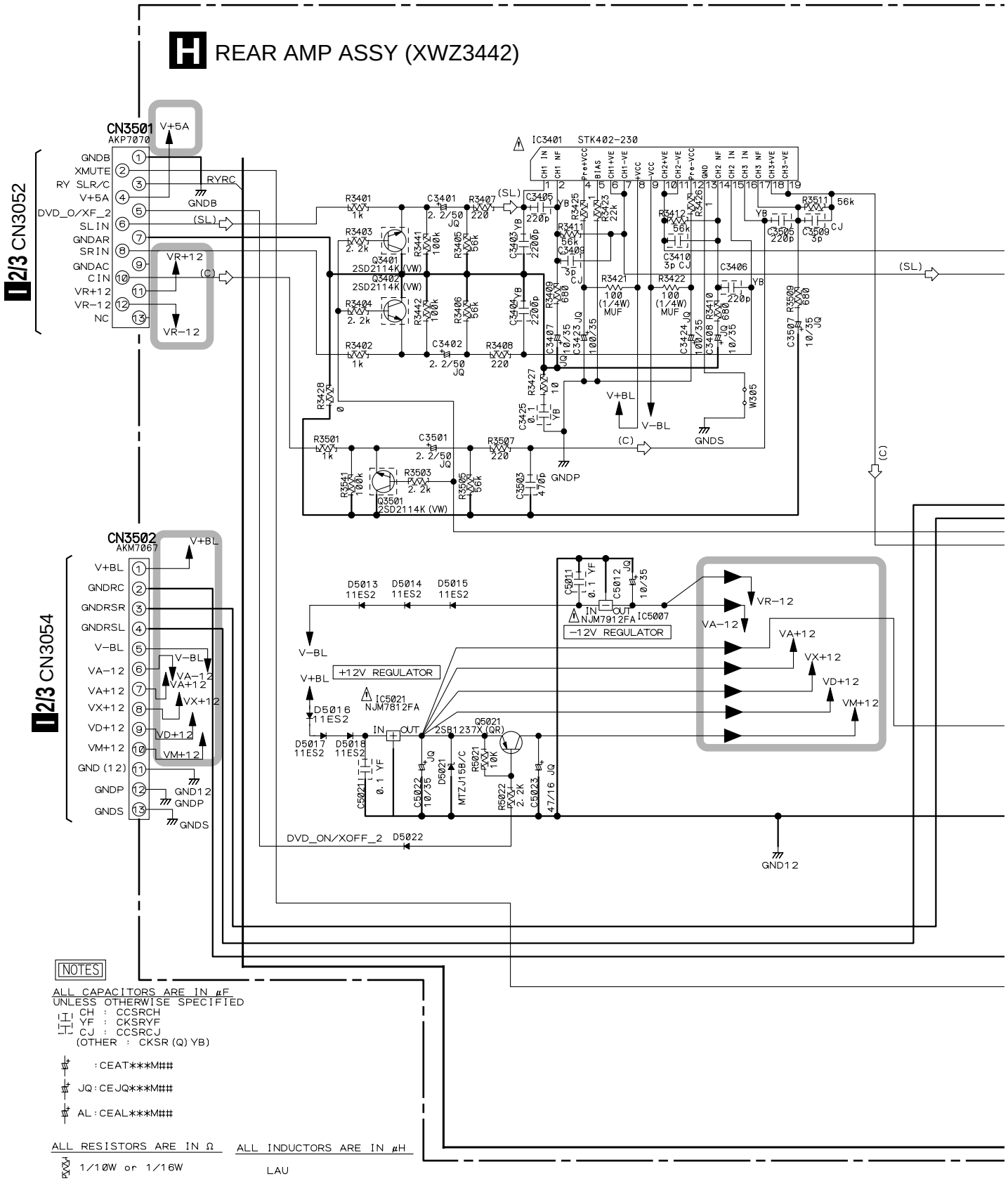
NO MARK DIODE

1SS133

: The power supply is shown with the marked box.


OVERLOAD DETECT
DC DETECT
FAN DRIVE
RELAY DRIVE
SPEAKERS
DC FAN MOTOR
CN3303
XKE3008
FL
GNDRFL
FR
GNDRFR
SW OUT
GNDRSW
CN3701
KM200SA2
FAN+
FAN−
V+BL
V+5A
VR+12
VR−12
VA−12
GNDF
GNDB
XMUTE
RY3361 XSR3002
RY3362 XSR3002
D3361
Q3351 2SC2240 (GRBL)
Q3352 2SC2240 (GRBL)
Q3651 2SC2240 (GRBL)
Q3715 DTA143EK
Q3714 DTA123JS
Q3713 DTA123JS
Q3712 DTC143EK
Q3711 DTC143EK
Q3717 2SC2412K (QR)
Q3716 2SC2412K (QR)
Q3705 DTC123TK
Q3703 DTA143EK
Q3701 2SD1858X (QR)
Q3771 DTA124EK
Q3772 2SD2144S (VW)
Q3773 DTA124TK
Q3774 DTC124EK
D3705
D3706
D3708 12
D3771 11ES2
R3708 12
R3774 STBY
FDET
RYFS
(FL) : FL AUDIO SIGNAL ROUTE
(SW) : SW AUDIO SIGNAL ROUTE

3.8 REAR AMP ASSY



NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH
YF : CKSRYF
CJ : CCSRCJ
(OTHER : CKSR (Q) YB)

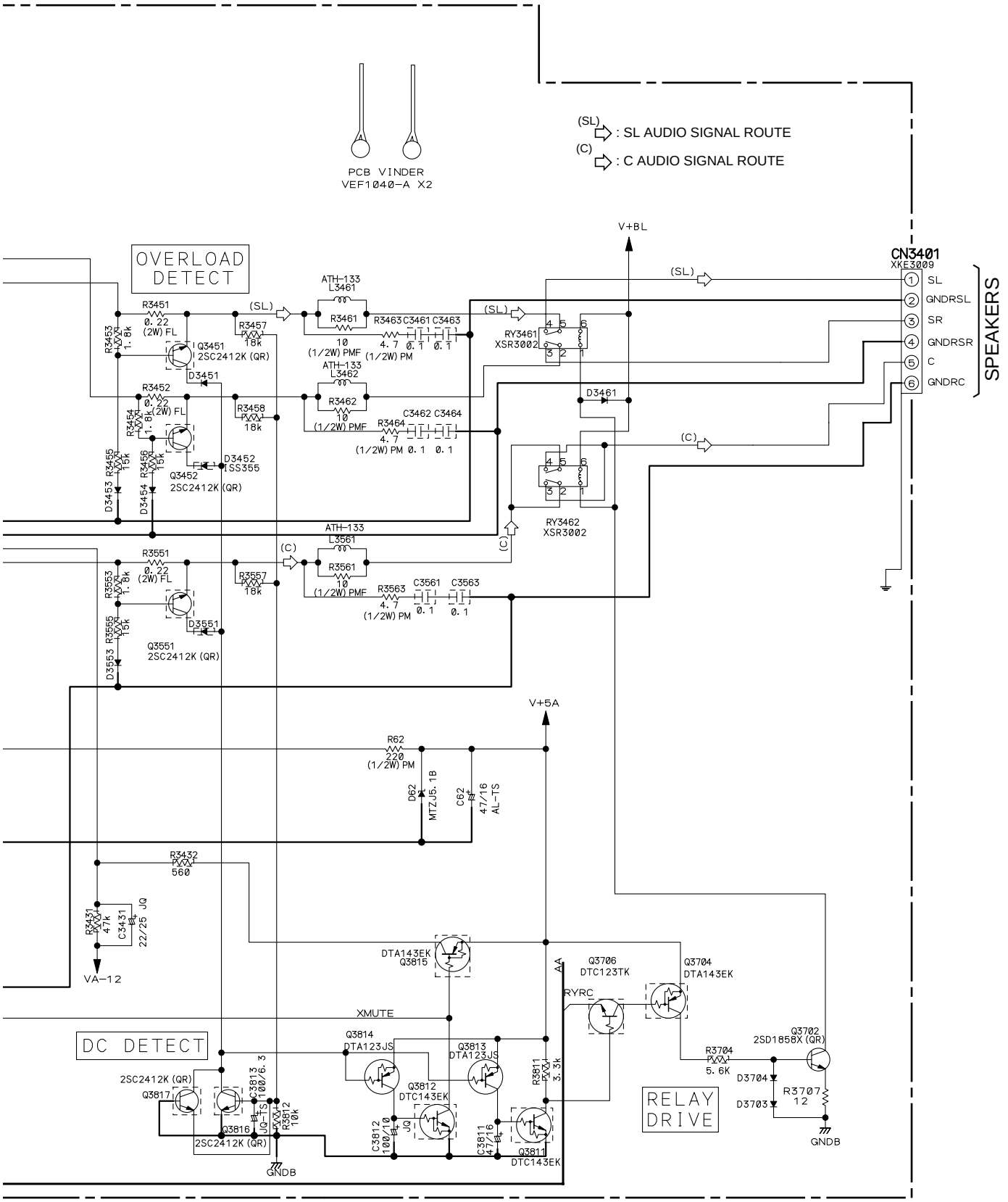
: CEAT***M###
JQ : CEJQ***M###
AL : CEAL***M###

ALL RESISTORS ARE IN Ω
1/10W or 1/16W
FU : RFA1/4PS
FL : RS (1 or 2) LMF
PM : RD1/2PM
(OTHER : RD1/4PU)
PMF : RD1/2PMF

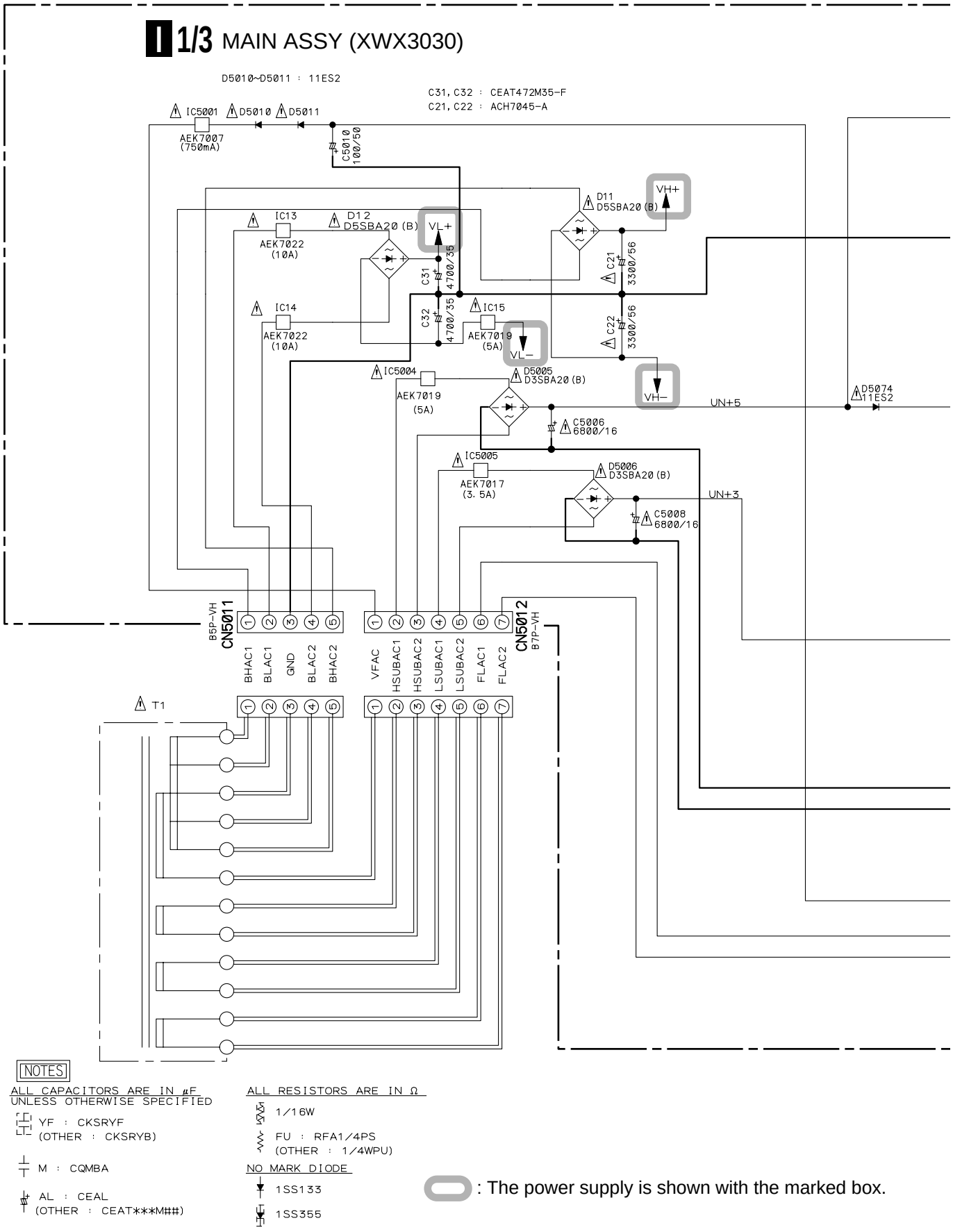
ALL INDUCTORS ARE IN μH
LAU

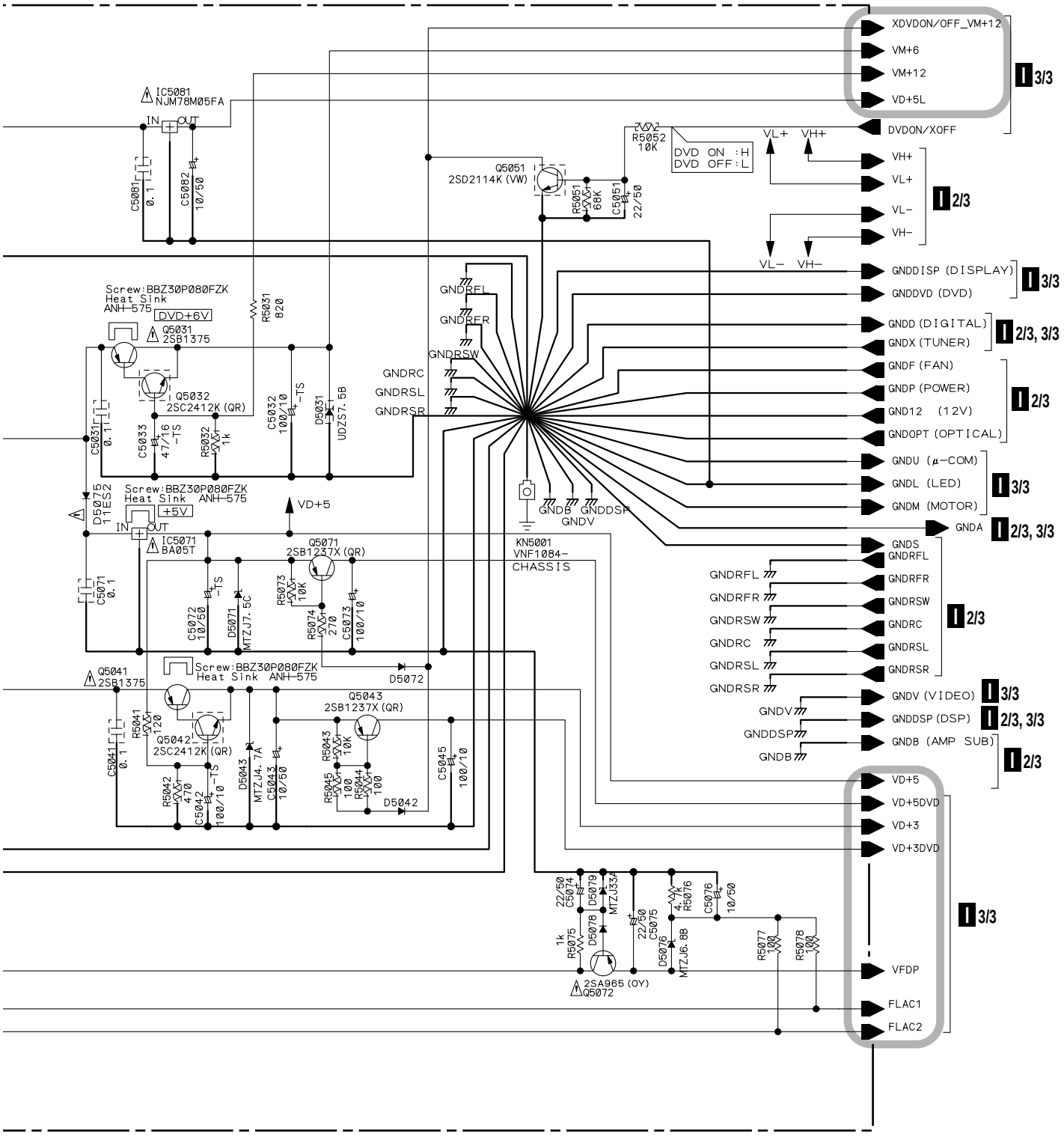
NO MARK DIODE
1SS133

: The power supply is shown with the marked box.


(SL) : SL AUDIO SIGNAL ROUTE
(C) : C AUDIO SIGNAL ROUTE
PCB VINDER
VEF1040-A X2
OVERLOAD DETECT
DC DETECT
RELAY DRIVE
V+BL
V+5A
VA-12
GNDB
CN3401
XKE3009
SL
GNDRSL
SR
GNDRSR
C
GNDRC
SPEAKERS
RY3461 XSR3002
RY3462 XSR3002
Q3451 2SC2412K (QR)
Q3452 2SC2412K (QR)
Q3551 2SC2412K (QR)
Q3816 2SC2412K (QR)
Q3817 2SC2412K (QR)
D3452 1SS355
D3451
D3461
D3551
DTA143EK Q3815
Q3814 DTA123JS
Q3813 DTA123JS
Q3812 DTC143EK
Q3811 DTC143EK
Q3706 DTC123TK
Q3704 DTA143EK
Q3702 2SD1858X (QR)
D62 MTZJ5.1B
XMUTE
RYRC
AA

3.9 MAIN ASSY (1/3)





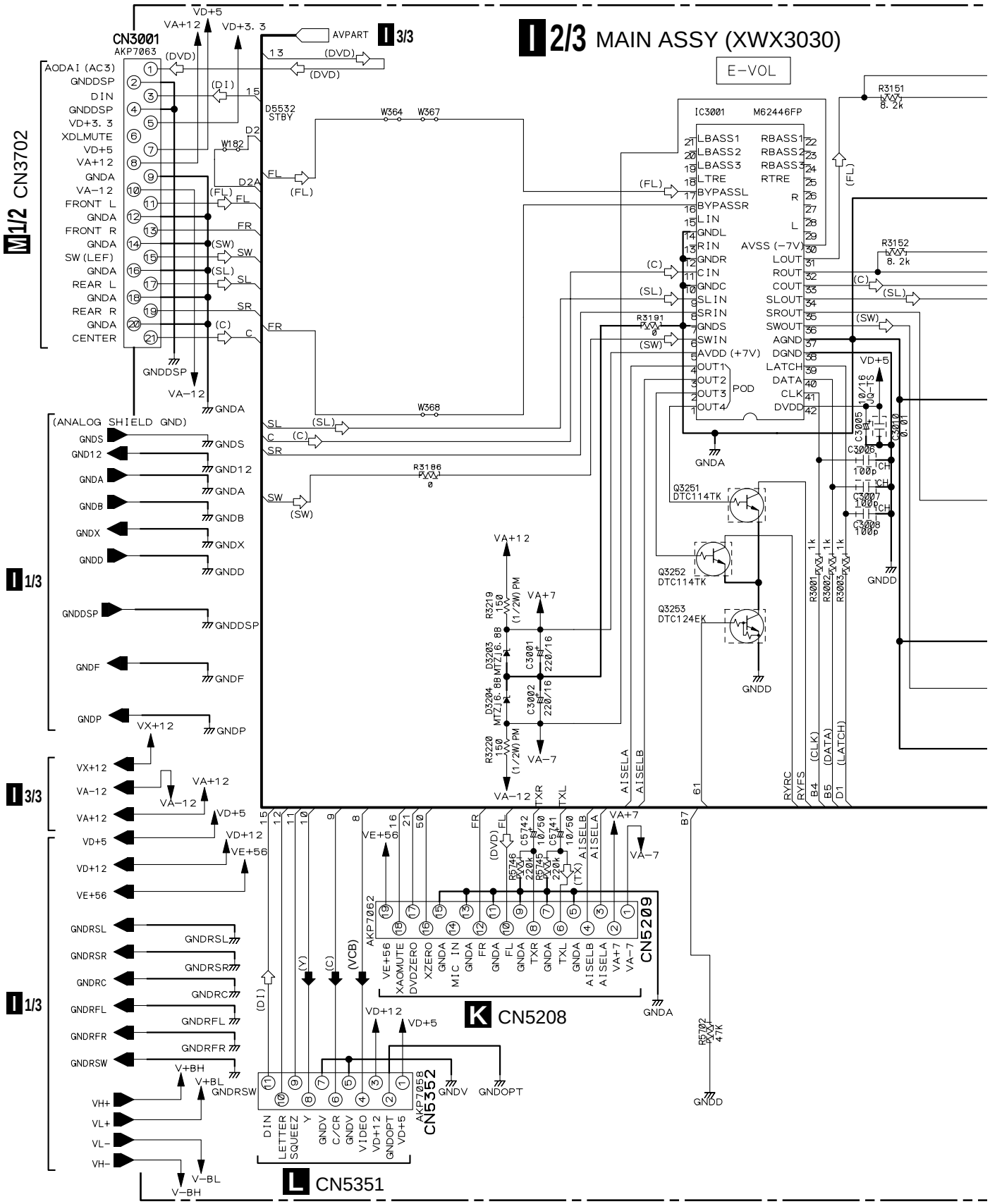
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491010 MFD, BY LITTELFUSE INC. FOR IC13 AND IC14 (AEK7022).

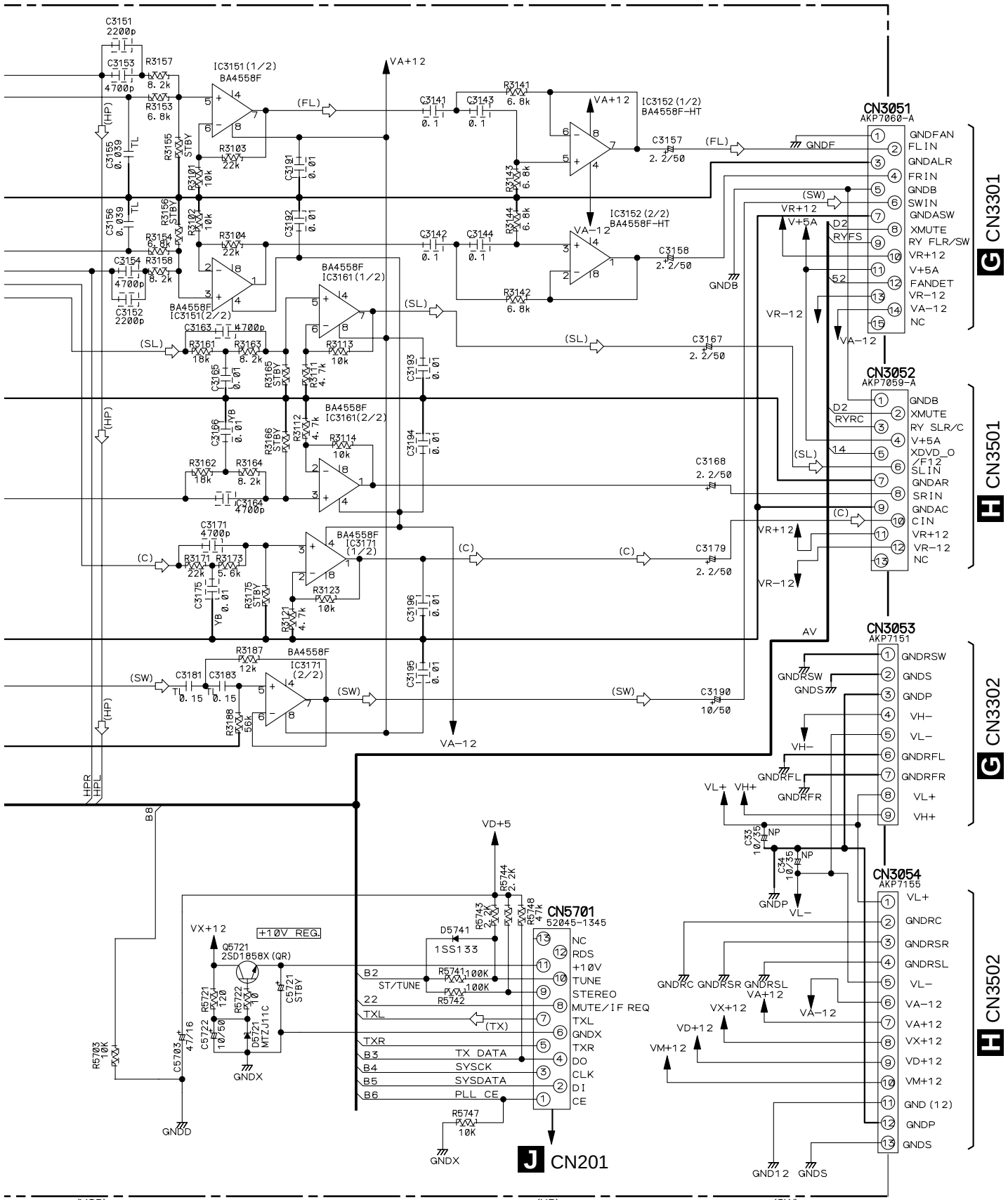
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 4910.75 MFD, BY LITTELFUSE INC. FOR IC5001 (AEK7007).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491005 MFD, BY LITTELFUSE INC. FOR IC15 AND IC5004 (AEK7019).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 49103.5 MFD, BY LITTELFUSE INC. FOR IC5005 (AEK7017).

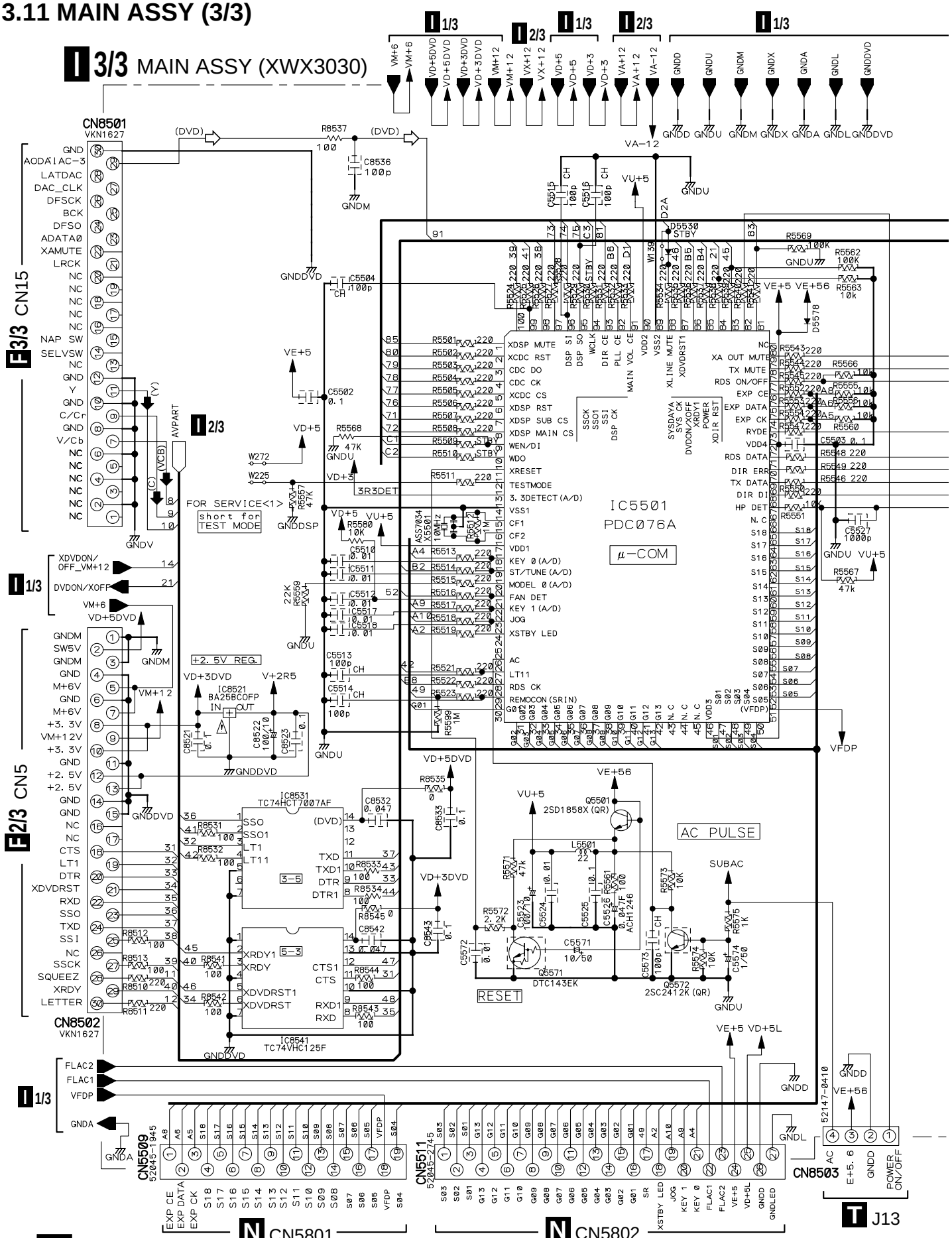
3.10 MAIN ASSY (2/3)

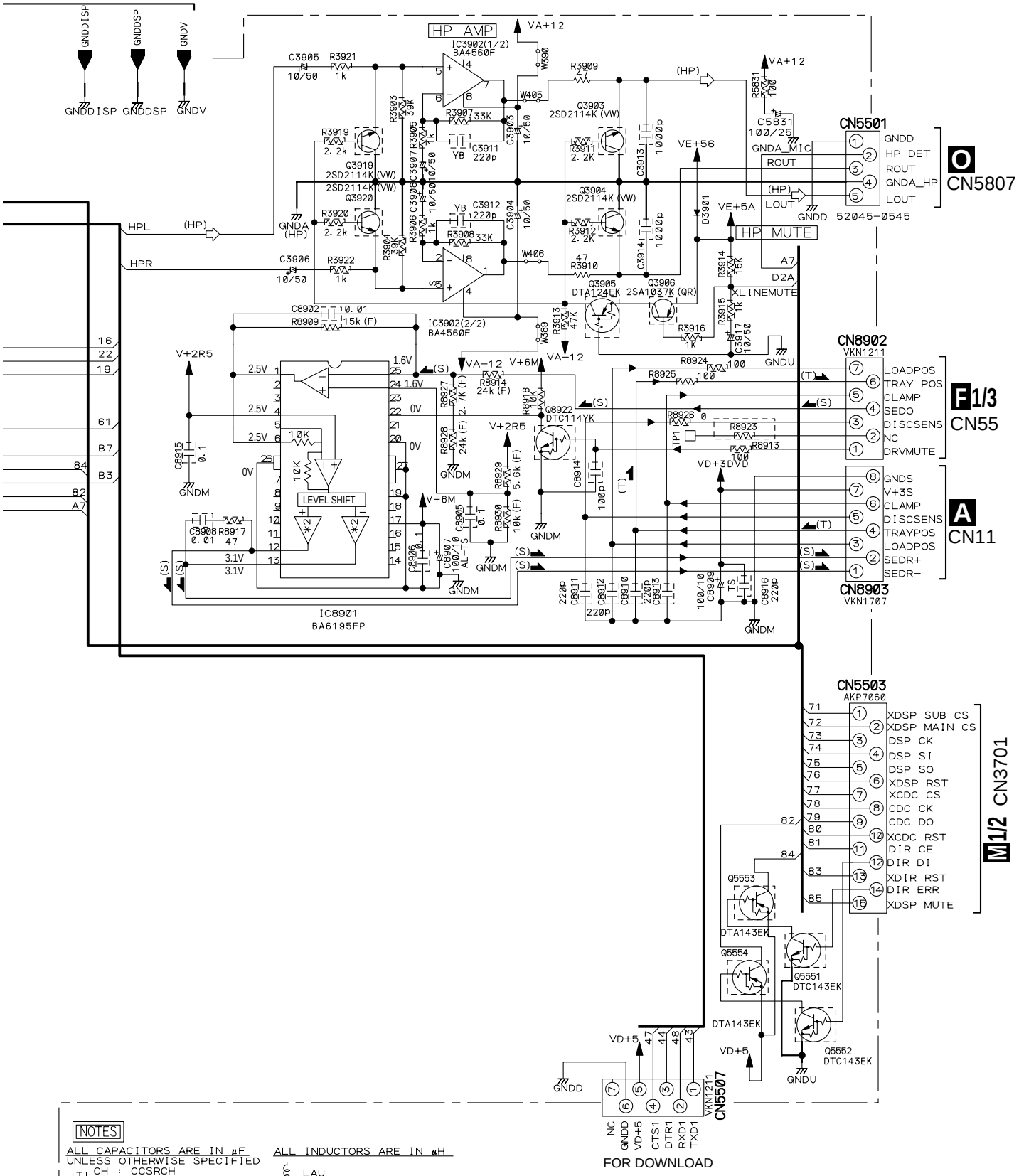




(VCB) : VCB SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(DVD) : DVD AUDIO SIGNAL ROUTE
(DI) : DI AUDIO SIGNAL ROUTE
(FL) : FL AUDIO SIGNAL ROUTE
(HP) : HP AUDIO SIGNAL ROUTE
(SL) : SL AUDIO SIGNAL ROUTE
(C) : C AUDIO SIGNAL ROUTE
(SW) : SW AUDIO SIGNAL ROUTE
(TX) : TX AUDIO SIGNAL ROUTE

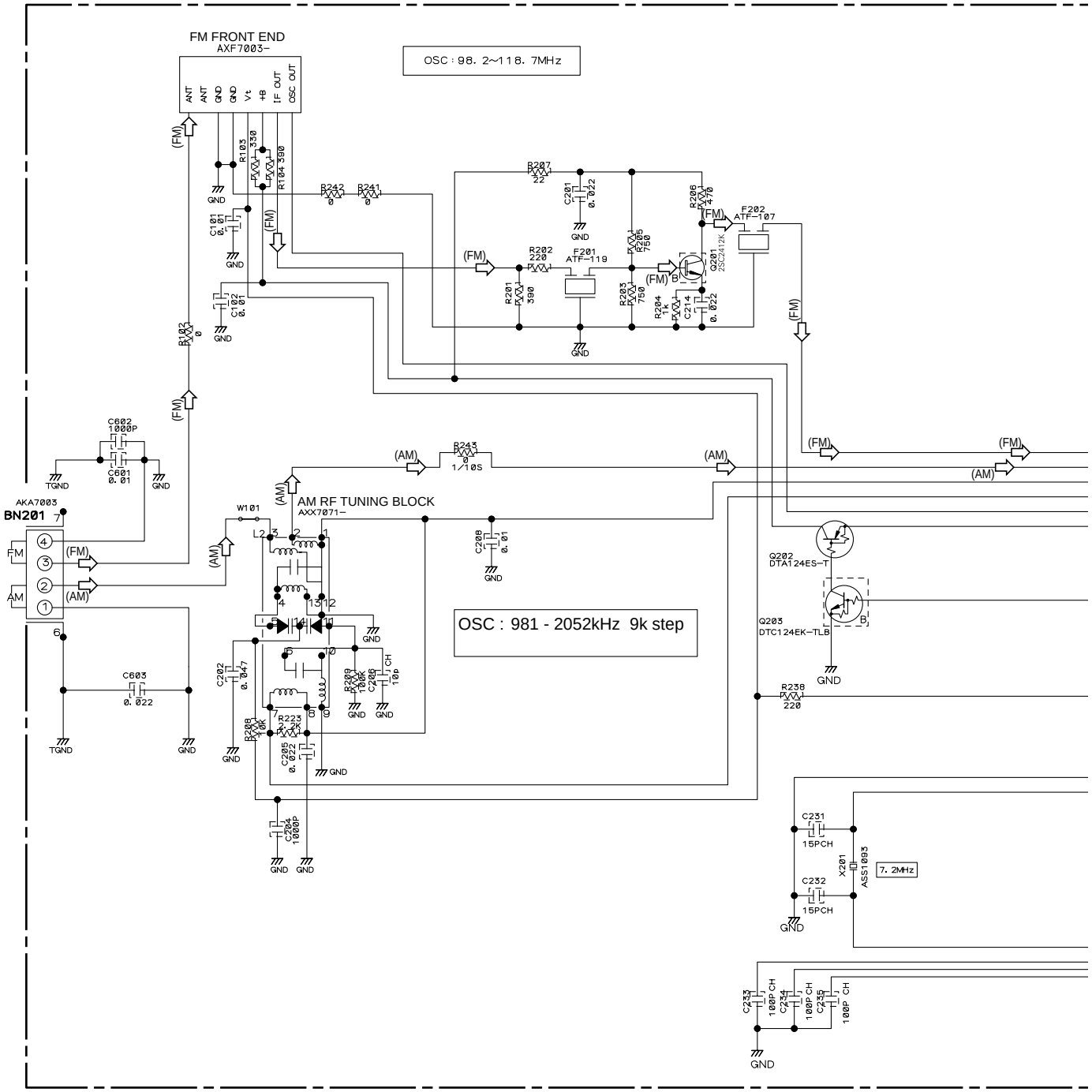
3.11 MAIN ASSY (3/3)




HP AMP
IC3902(1/2) BA4560F
IC3902(2/2) BA4560F
HP MUTE
LEVEL SHIFT
IC8901 BA6195FP
CN5501
CN5807
CN8902 VKN1211
CN55
CN11
CN8903 VKN1707
CN5503 AKP7060
CN3701
CN5507 VKN1211
FOR DOWNLOAD
NOTES
ALL CAPACITORS ARE IN μF UNLESS OTHERWISE SPECIFIED
ALL INDUCTORS ARE IN μH
ALL RESISTORS ARE IN Ω
NO MARK DIODE
(VCB) : VCB SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(DVD) : DVD AUDIO SIGNAL ROUTE
(HP) : HP AUDIO SIGNAL ROUTE
(T) : TRAY POSITION SERVO LOOP LINE
(S) : SEDO SERVO LOOP LINE

3.12 TUNER MODULE

J TUNER MODULE (AXQ7228)

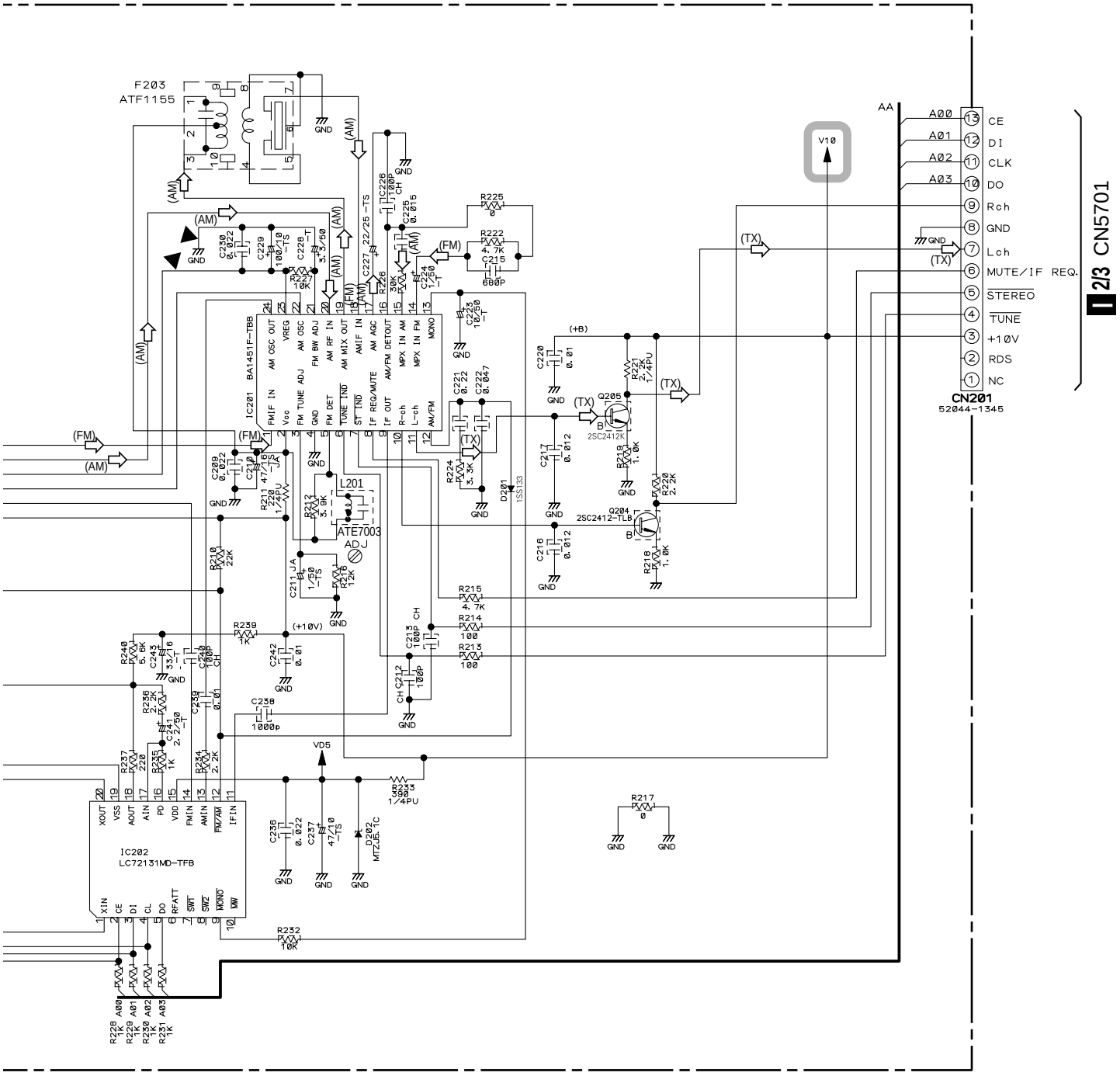


Notes

1. RESISTORS
   Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K;KΩ, M;MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P;PF.
3. DIODES
   No mark diode is 1SS133.

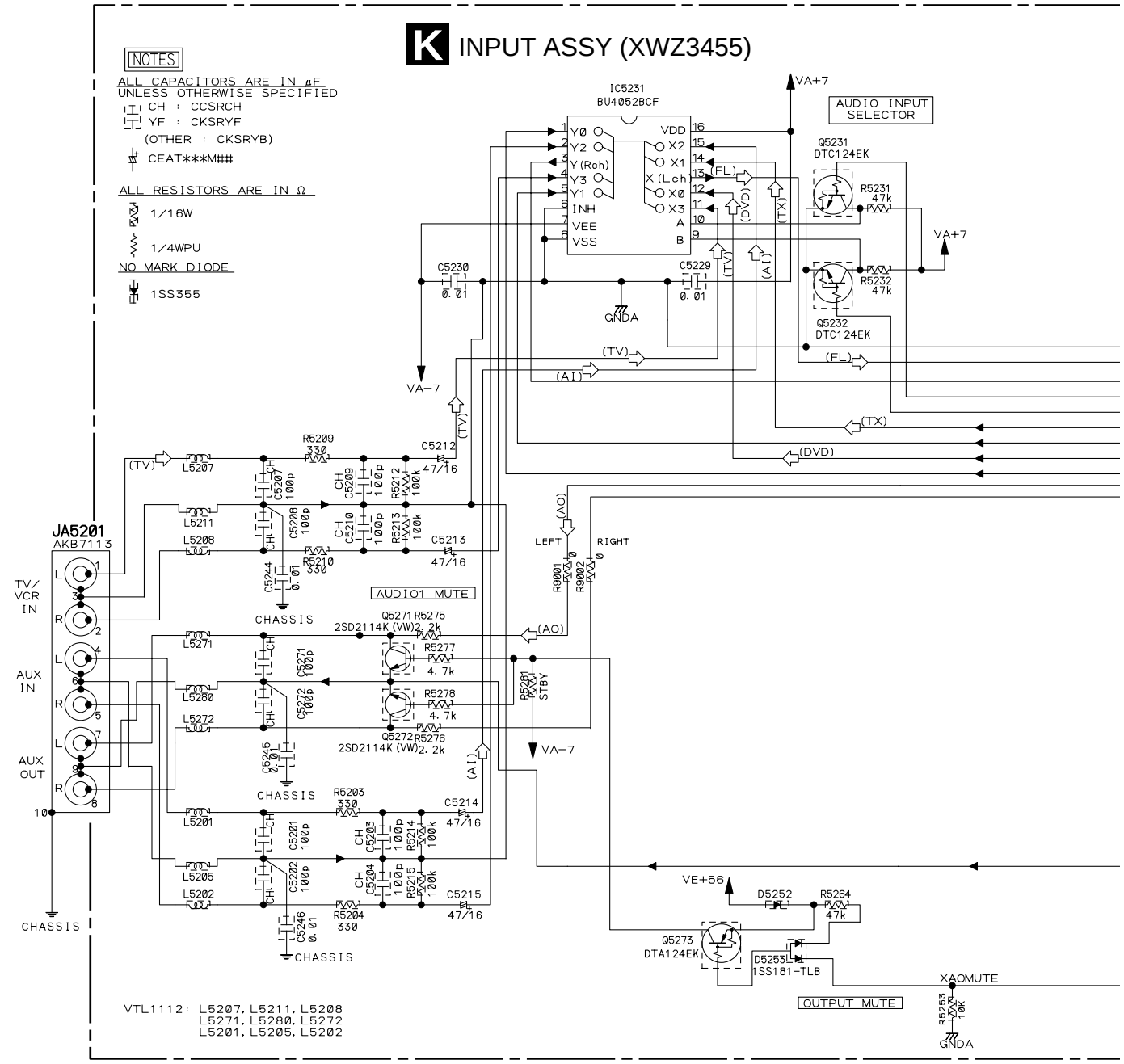
: The power supply is shown with the marked box.

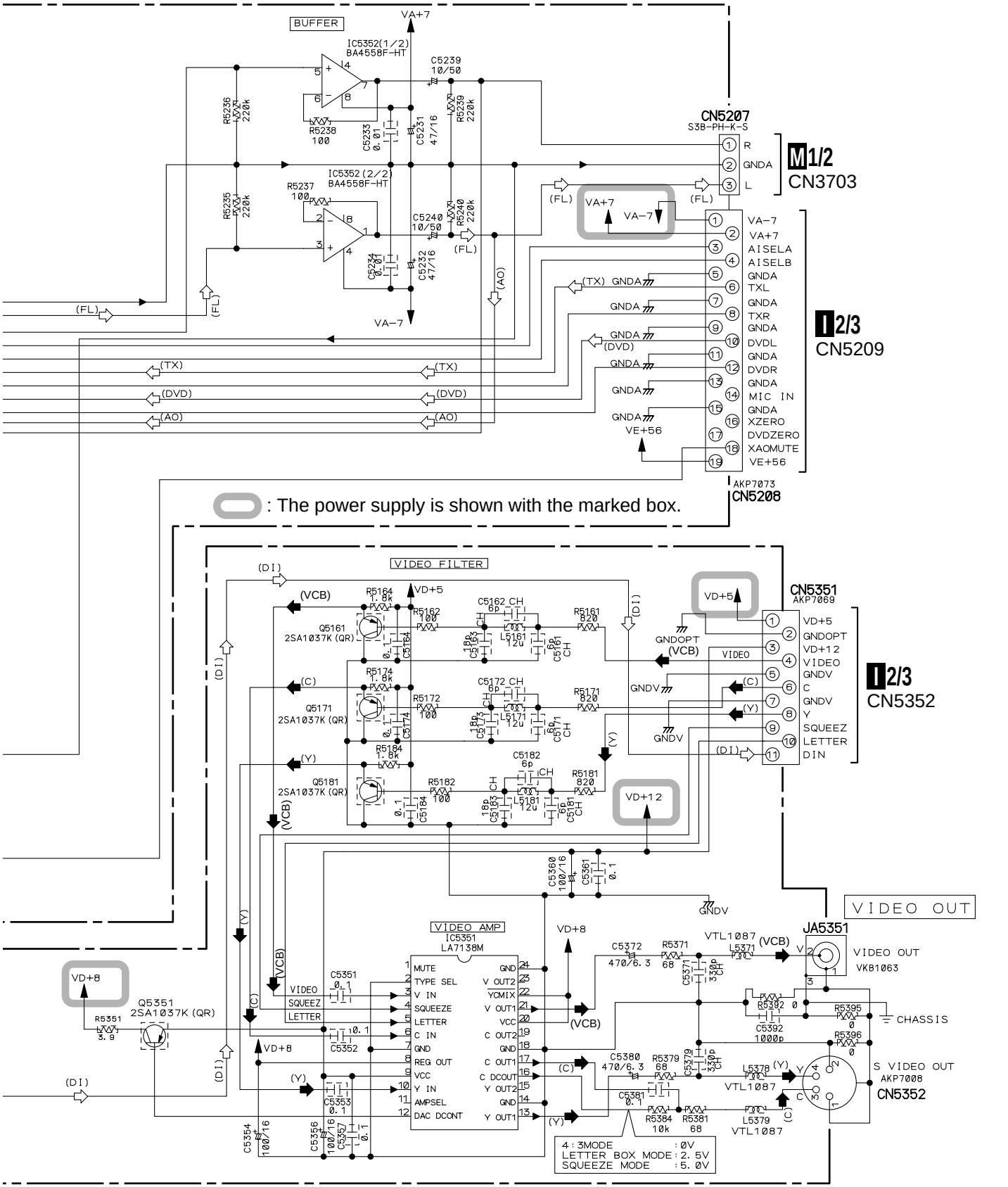
(TX) : TUNER AUDIO SIGNAL ROUTE
(AM) : AM SIGNAL ROUTE
(FM) : FM SIGNAL ROUTE



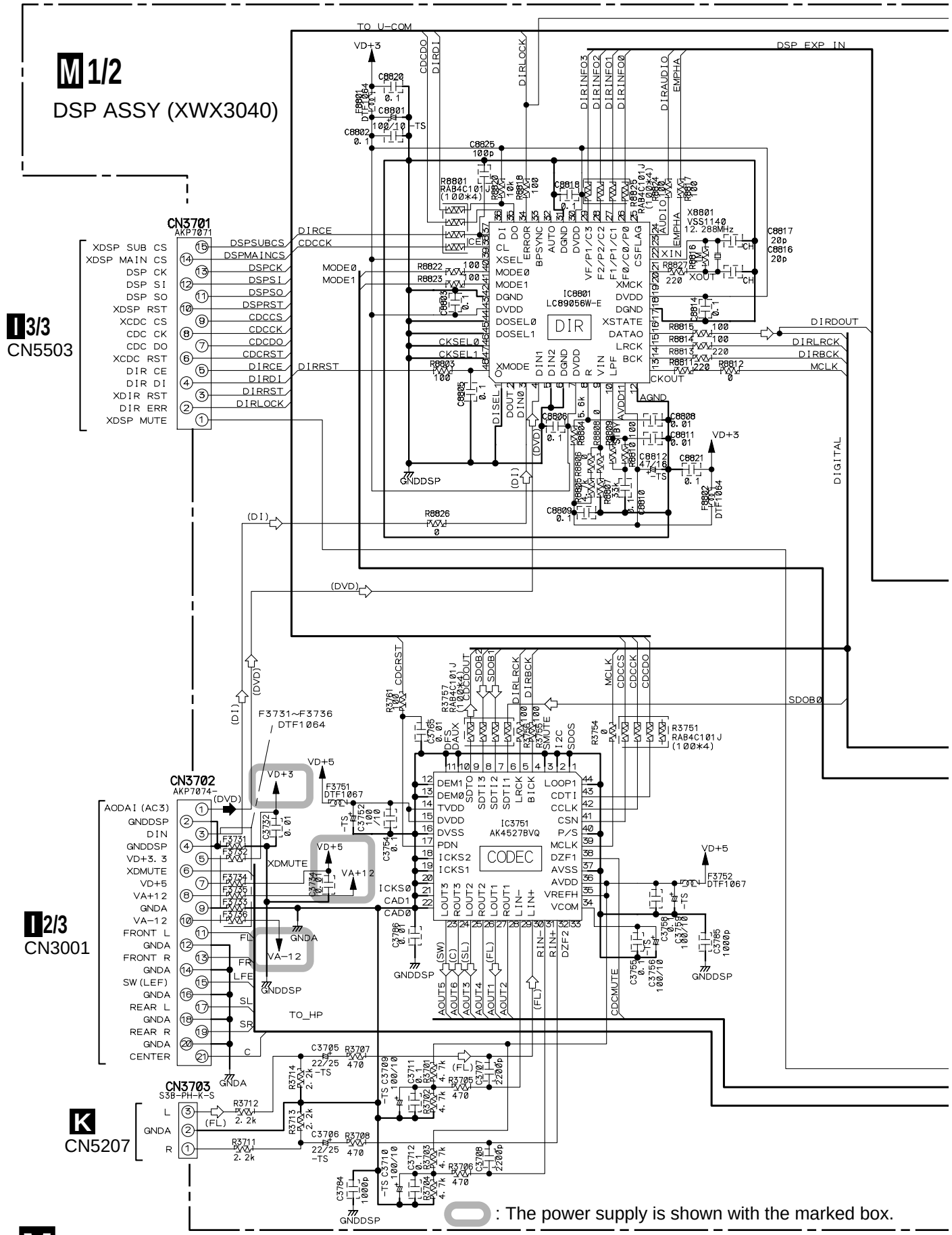
2/3 CN5701

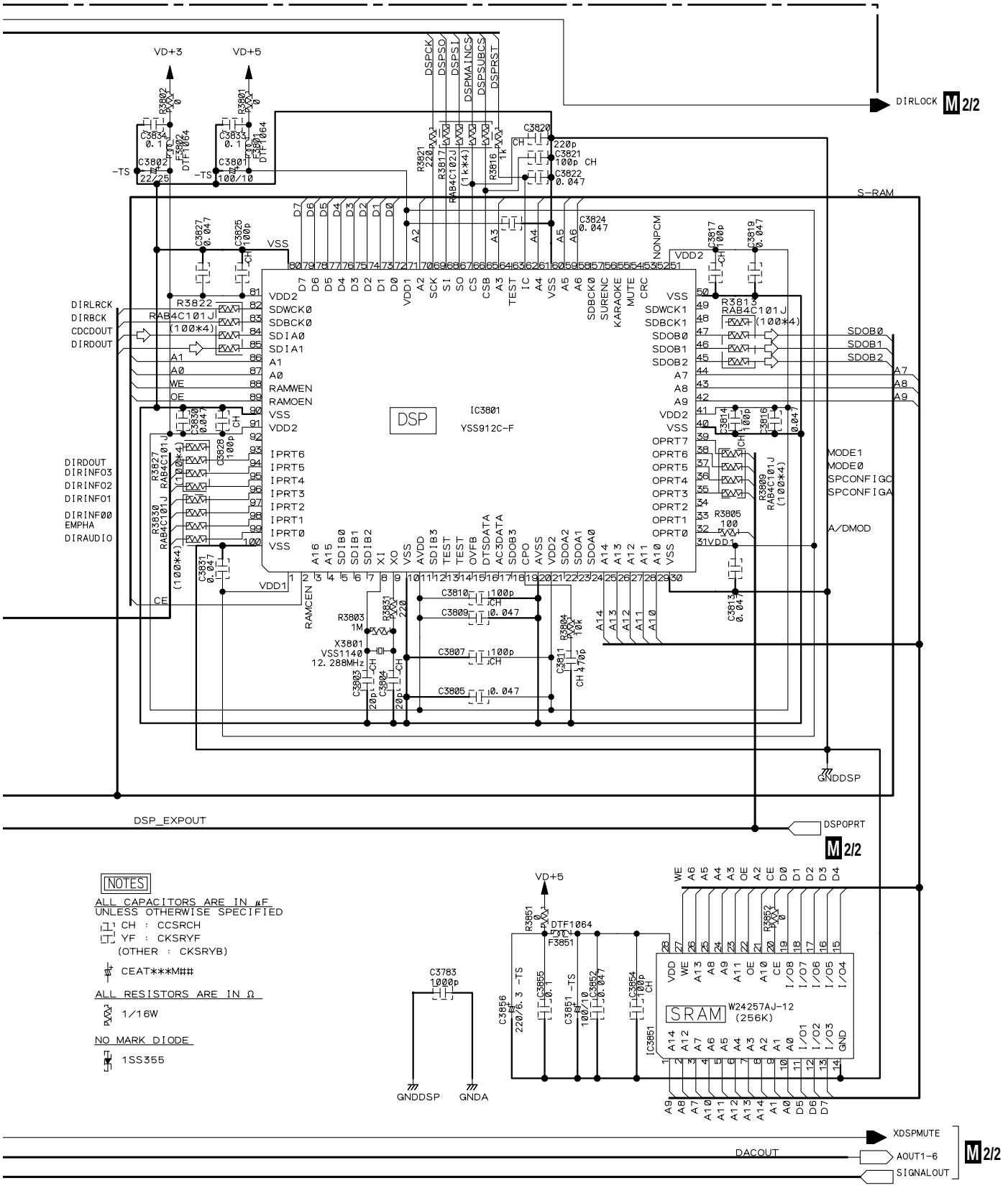
3.13 INPUT and VIDEO ASSYS



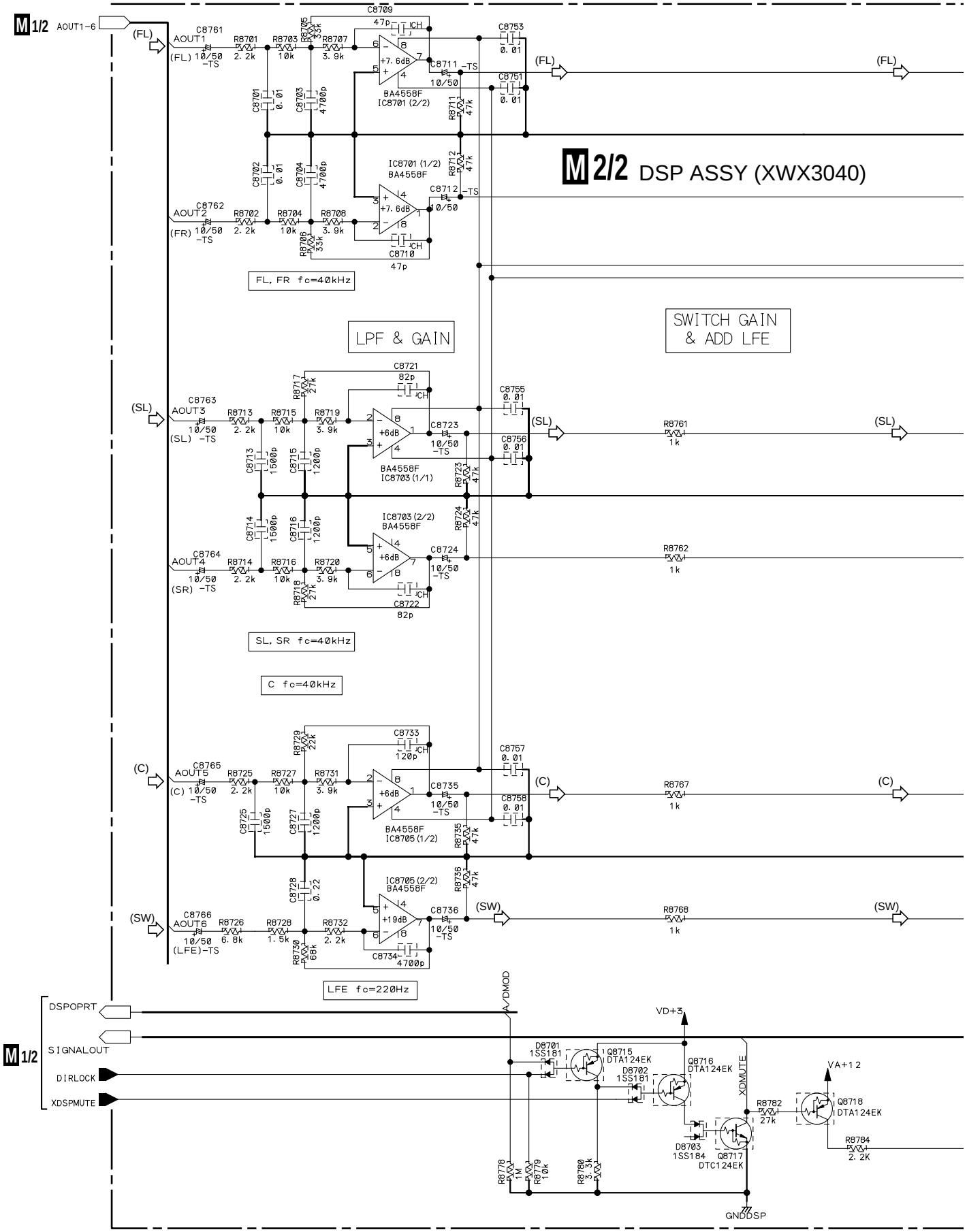

BUFFER
VA+7
IC5352(1/2) BA4558F-HT
IC5352(2/2) BA4558F-HT
CN5207 S3B-PH-K-S
M 1/2 CN3703
I 2/3 CN5209
CN5208 AKP7073
: The power supply is shown with the marked box.
VIDEO FILTER
VD+5
VD+12
VD+8
CN5351 AKP7069
I 2/3 CN5352
VIDEO AMP
IC5351 LA7138M
VIDEO OUT
JA5351
VKB1063
S VIDEO OUT AKP7008 CN5352
CHASSIS
4:3MODE : 0V
LETTER BOX MODE : 2.5V
SQUEEZE MODE : 5.0V
(VCB) : VCB SIGNAL ROUTE
(Y) : Y SIGNAL ROUTE
(C) : C SIGNAL ROUTE
(DVD) : DVD AUDIO SIGNAL ROUTE
(DI) : DI AUDIO SIGNAL ROUTE
(FL) : FL AUDIO SIGNAL ROUTE
(AI) : AUX IN AUDIO SIGNAL ROUTE
(AO) : AUX OUT AUDIO SIGNAL ROUTE
(TV) : TV AUDIO SIGNAL ROUTE
(TX) : TX AUDIO SIGNAL ROUTE

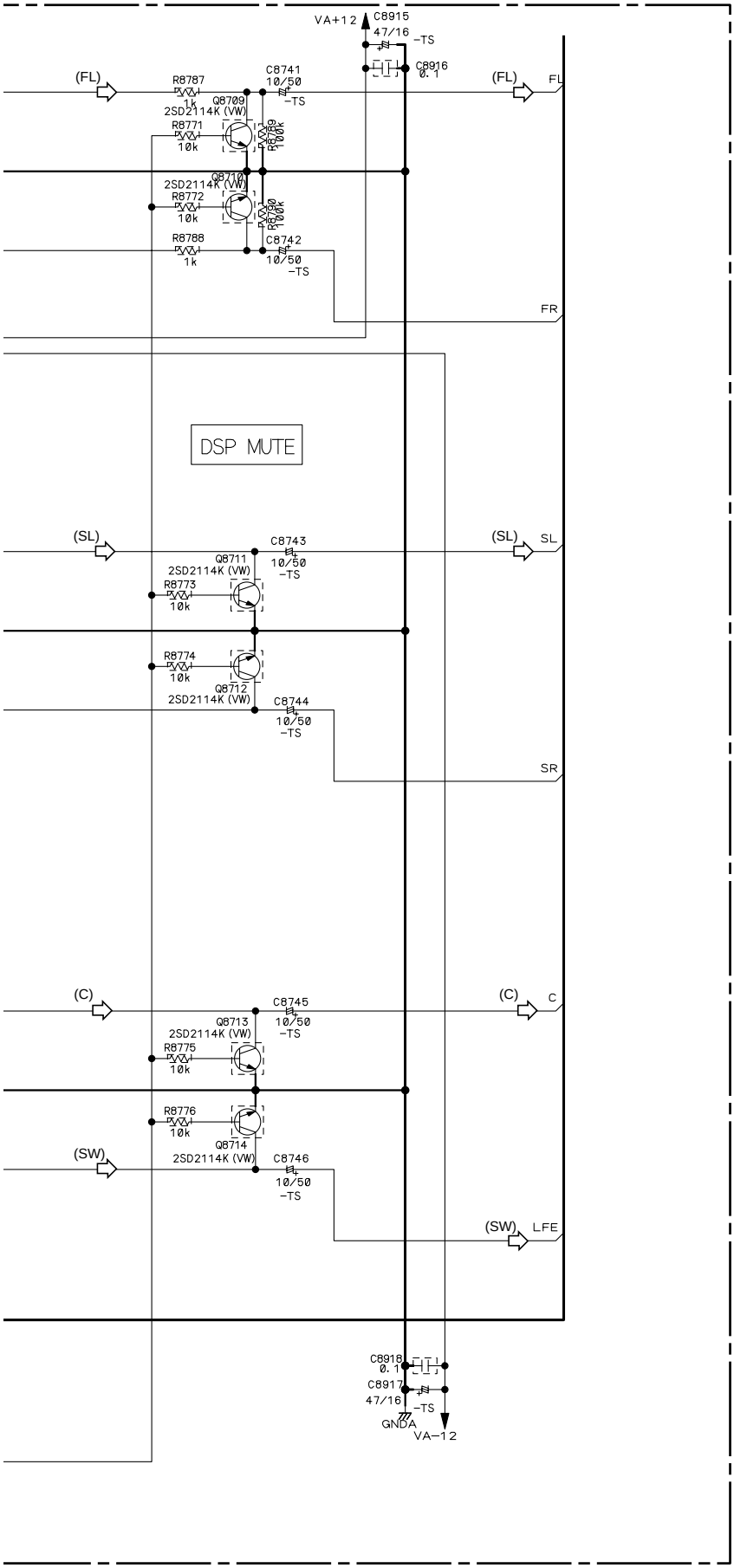
3.14 DSP ASSY (1/2)




DSP
IC3801
YSS912C-F
S-RAM
SRAM
W24257AJ-12
(256K)
X3801
VSS1140
12.288MHz
DIRLOCK M 2/2
DSPOPRT M 2/2
XDSPMUTE
AOUT1-6
SIGNALOUT
DACOUT
DSP_EXPOUT
GNDDSP
GNDA
NOTES
ALL CAPACITORS ARE IN µF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH
YF : CKSRYF
(OTHER : CKSRYB)
CEAT***M##
ALL RESISTORS ARE IN Ω
1/16W
NO MARK DIODE
1SS355
(DVD) : DVD AUDIO SIGNAL ROUTE
(DI) : DI AUDIO SIGNAL ROUTE
(FL) : FL AUDIO SIGNAL ROUTE
(SL) : SL AUDIO SIGNAL ROUTE
(C) : C AUDIO SIGNAL ROUTE
(SW) : SW AUDIO SIGNAL ROUTE
: AUDIO SIGNAL ROUTE

3.15 DSP ASSY (2/2)





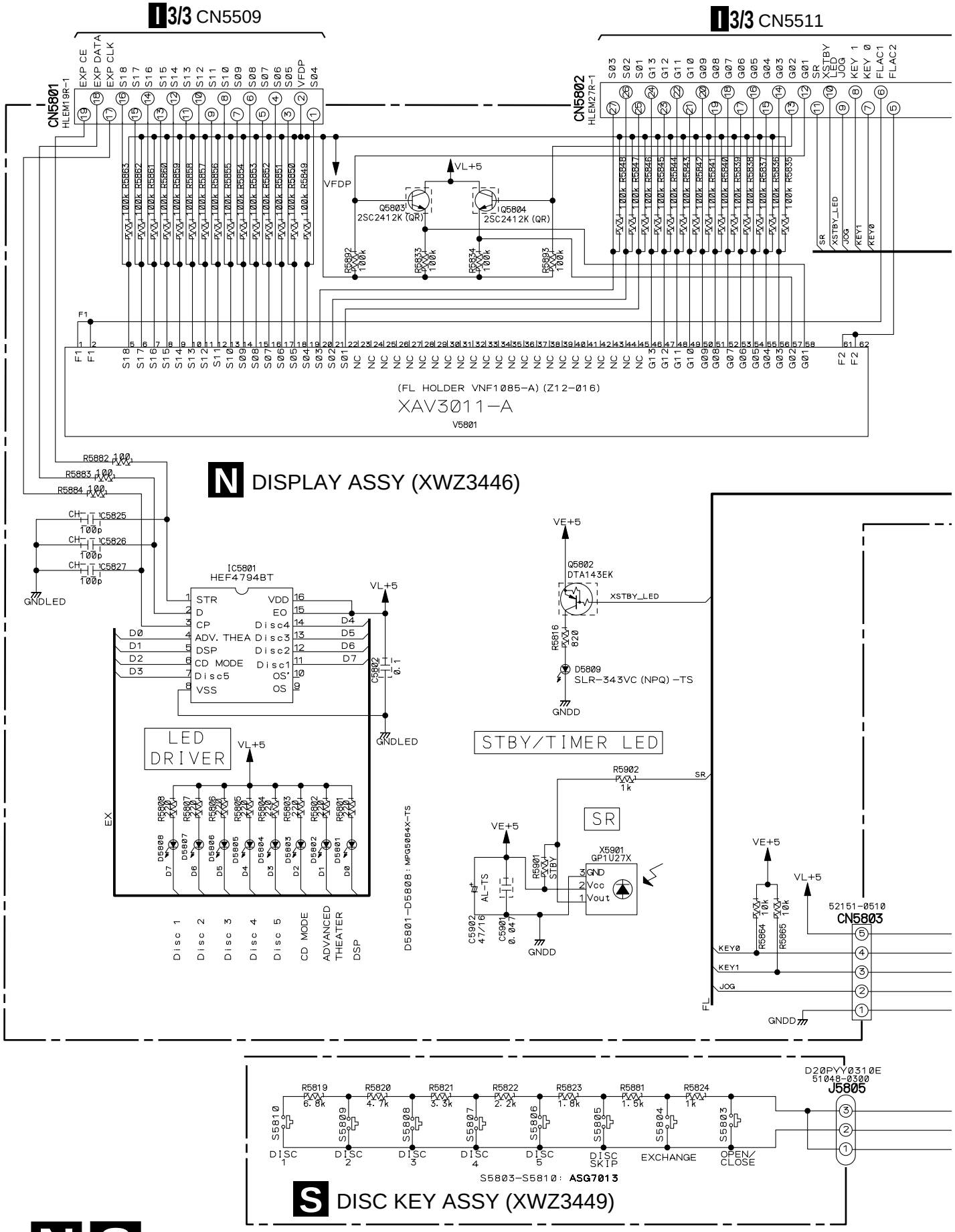
NOTES

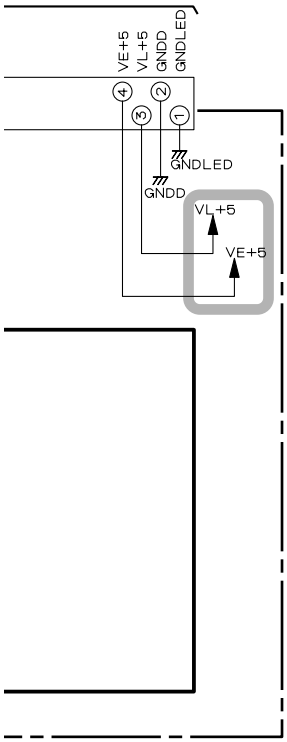
ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
CH : CCSRCH
YF : CKSRYF
(OTHER : CKSRYB)
JA : CEJA
(OTHER : CEAT***M##)

ALL RESISTORS ARE IN Ω
1/16W

(FL) : FL AUDIO SIGNAL ROUTE
(SL) : SL AUDIO SIGNAL ROUTE
(C) : C AUDIO SIGNAL ROUTE
(SW) : SW AUDIO SIGNAL ROUTE

3.16 DISPLAY, MIC HP, KEYB, STBY SWITCH, JOG and DISC KEY ASSYS





SWITCHES

JOG ASSY

S5801 : VOLUME

DISC KEY ASSY

S5803 : ▲ OPEN/CLOSE
S5804 : EXCHANGE
S5805 : DISC SKIP
S5806 : 5
S5807 : 4
S5808 : 3
S5809 : 2
S5810 : 1

DISC

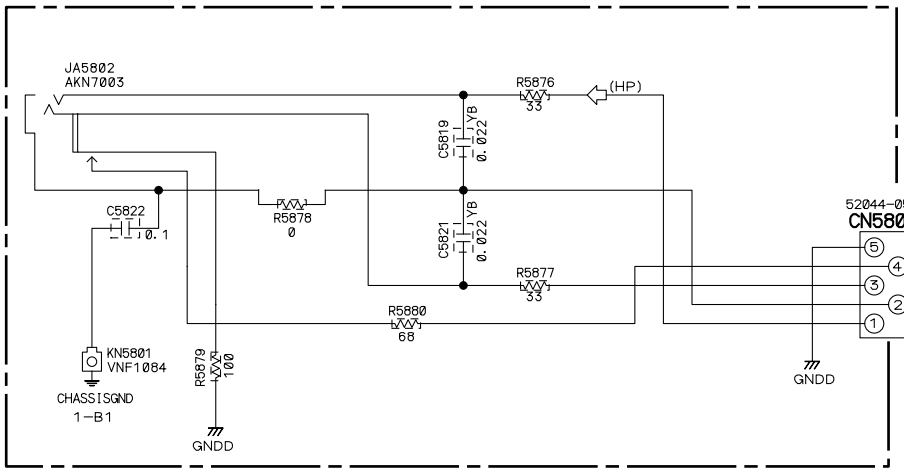
STBY SWITCH ASSY

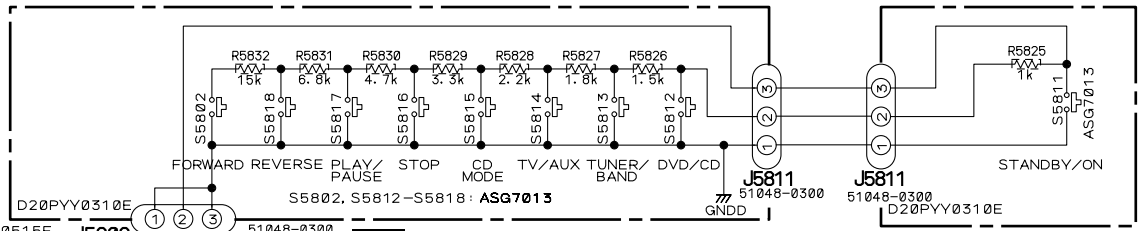
S5811 : ⏻ STANDBY/ON

KEYB ASSY

S5802 : ▶▶•▶▶I (FORWARD)
S5812 : DVD/CD
S5813 : TUNER/BAND
S5814 : TV/AUX
S5815 : CD MODE
S5816 : ■ (STOP)
S5817 : ▶/II (PLAY/PAUSE)
S5818 : I◀◀•◀◀ (REVERSE)

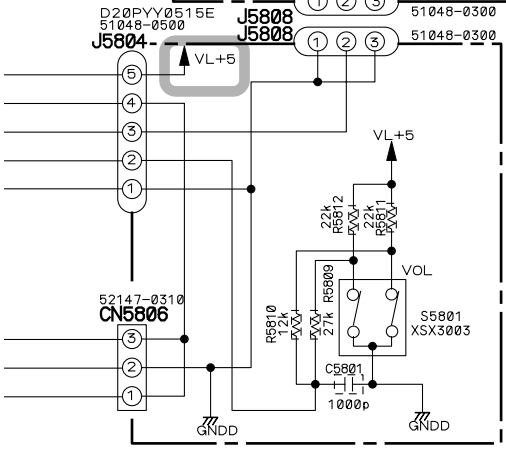
O MIC HP ASSY (XWZ3450)





P KEYB ASSY (XWZ3447)

Q STBY SWITCH ASSY (XWZ3453)



R JOG ASSY (XWZ3448)

NOTES

ALL CAPACITORS ARE IN μF

CH : CCSRCH
YF : CKSRYF
(OTHER : CKSRYB)

AL : CEAL
(OTHER : CEAT***M###)

NO MARK DIODE

1SS133

ALL RESISTORS ARE IN Ω AND F%

1/16W

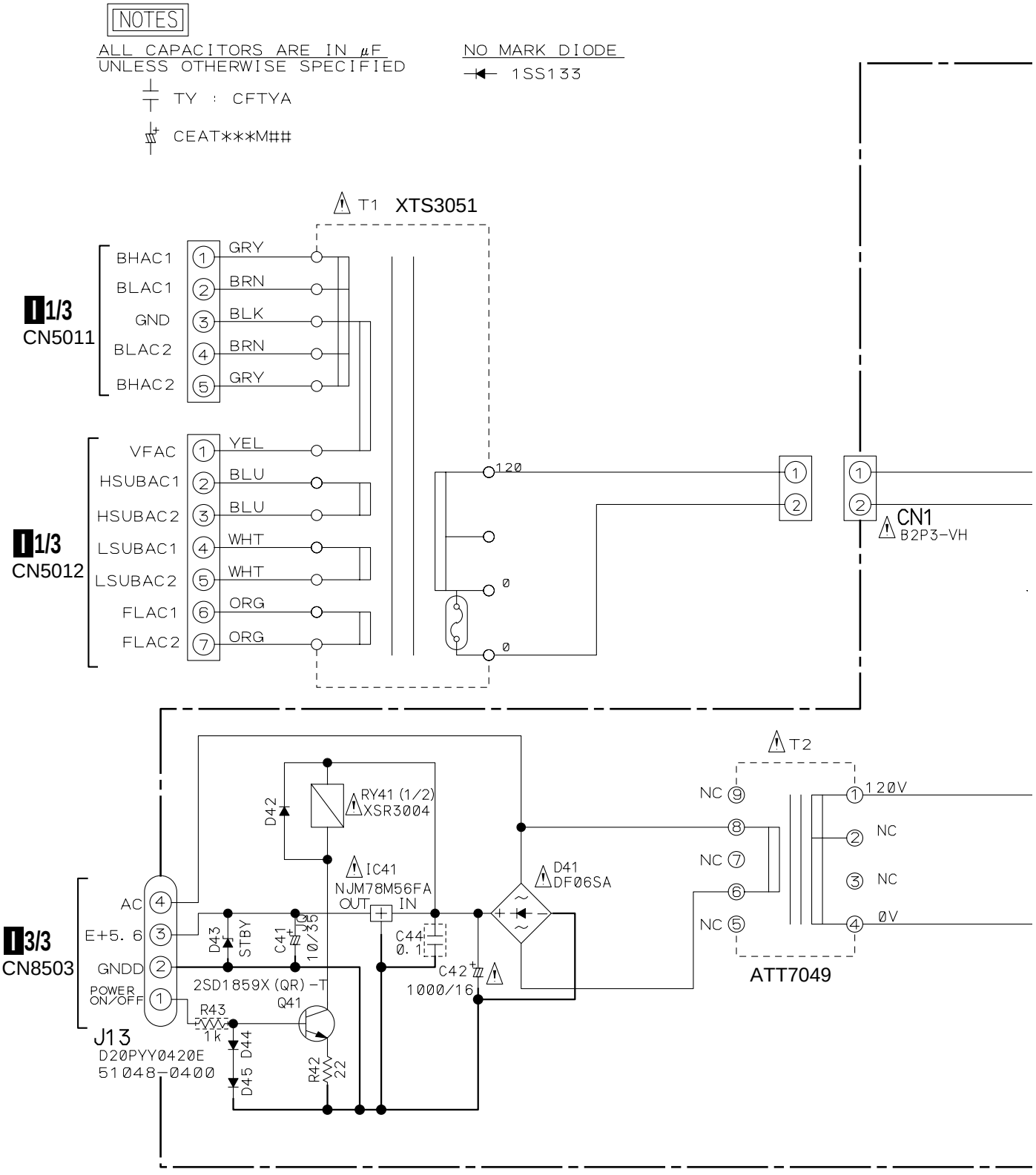
1/4WPU

ALL INDUCTORS ARE IN μH

LAU

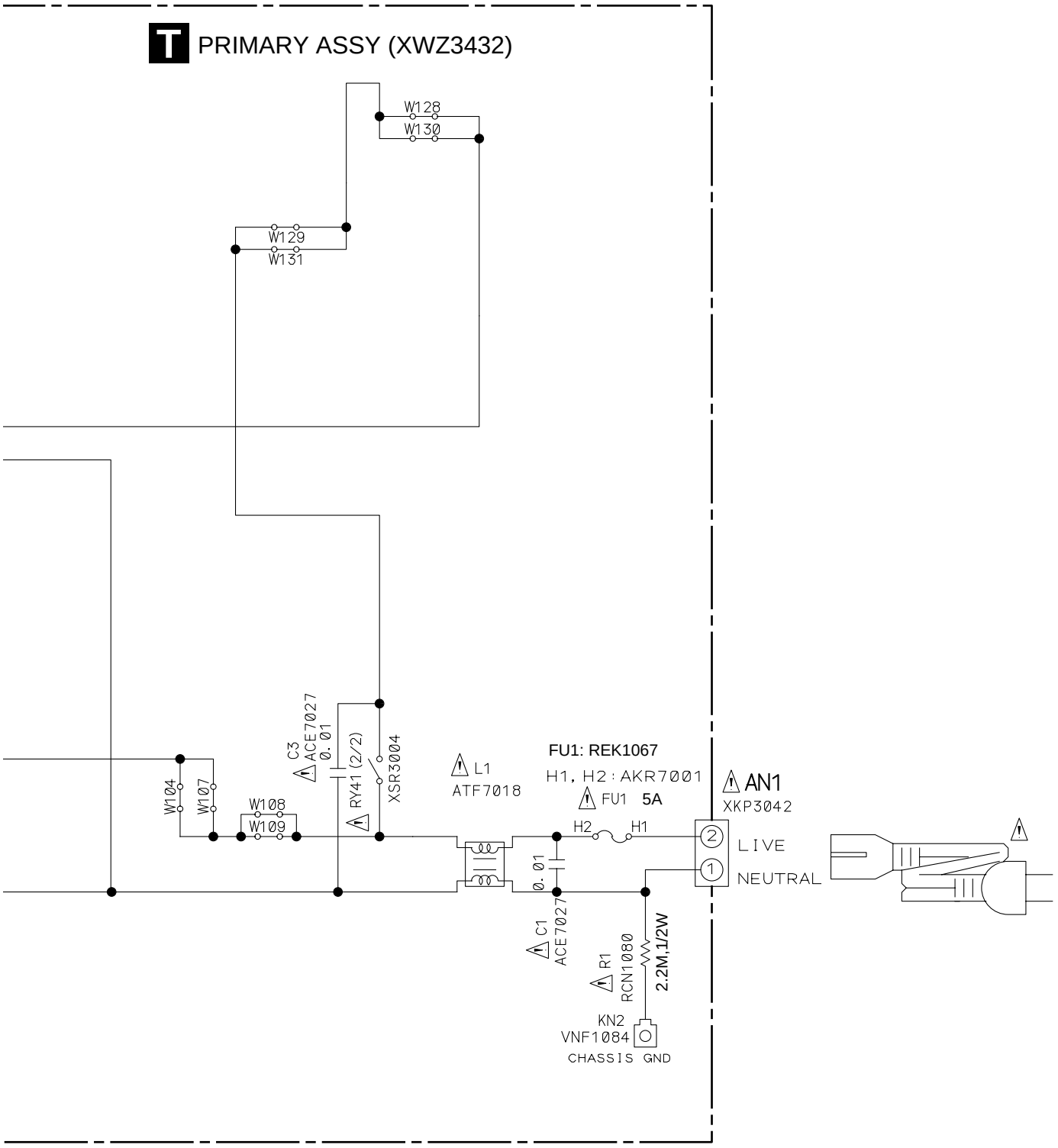
: The power supply is shown with the marked box.

3.17 PRIMARY ASSY



• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE WITH SAME TYPE AND RATINGS OF FUSE.

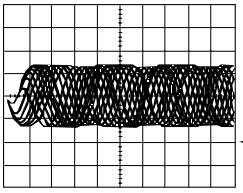


WAVEFORMS

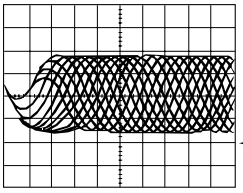
Note : The encircled numbers denote measuring point in the schematic diagram.

Measurement condition : No. 1 to 4 and 6 to 11 : MJK1, Title 1-chp 1
No. 5 : CD, ABEX-784 Track 1
No. 12 to 14 : MJK1, Title 1-chp 4
No. 15 to 17 : MJK1, Title 1-chp 5

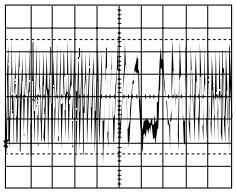
1 **Foot of R169 (RF)**
V: 100mV/div. H: 0.2µsec/div.



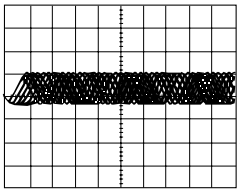
2 **TP2 (RFO)**
V: 500mV/div. H: 0.1µsec/div.



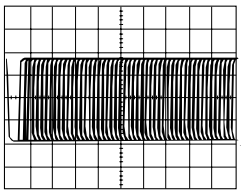
4 **TP3 (Tracking Error)**
(AI-Inner Tracking Off)
V: 500mV/div. H: 2msec/div.



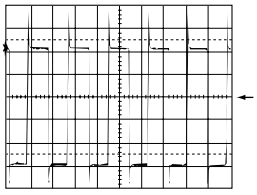
5 **IC2 - pin 39 (EFM before slice)**
V: 1V/div. H: 1µsec/div.



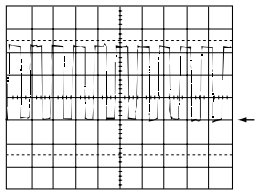
6 **IC2 - pin 1 (EFM)**
V: 1V/div. H: 0.2µsec/div.



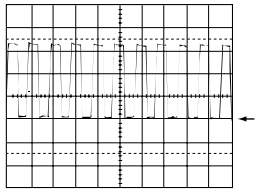
7 **IC3 - pin 41 (REGB)**
V: 1V/div. H: 5msec/div.



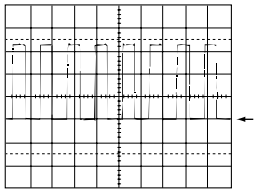
8 **Foot of R261 (FPWM)**
V: 1V/div. H: 5msec/div.



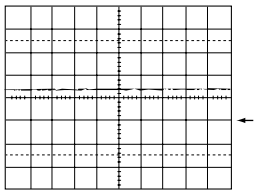
9 **Foot of R262 (VPWM)**
V: 1V/div. H: 5msec/div.



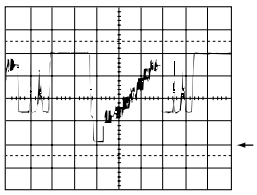
10 **Foot of R263 (PPWM)**
V: 1V/div. H: 5msec/div.



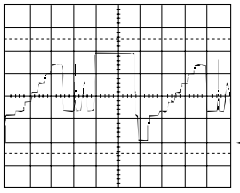
11 **Foot of R264 (RPWM)**
V: 1V/div. H: 5msec/div.



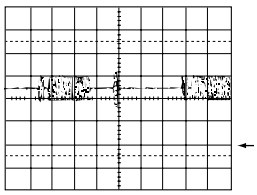
12 **IC18 - pin 45**
(Composite Video output)
V: 0.2V/div. H: 1msec/div.



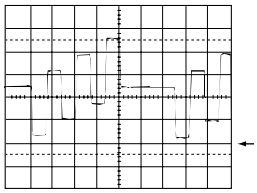
13 **IC18 - pin 39 (Y output)**
V: 0.2V/div. H: 5msec/div.



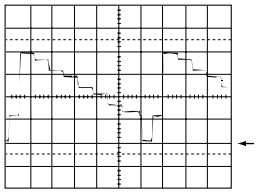
14 **IC18 - pin 36 (C output)**
V: 0.2V/div. H: 5msec/div.



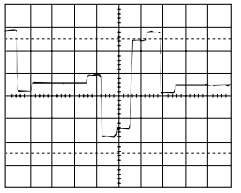
15 **IC18 - pin 45 (C_B output when selecting color difference output)**
V: 0.2V/div. H: 5msec/div.



16 **IC18 - pin 39 (Y output when selecting color difference output)**
V: 0.2V/div. H: 5msec/div.

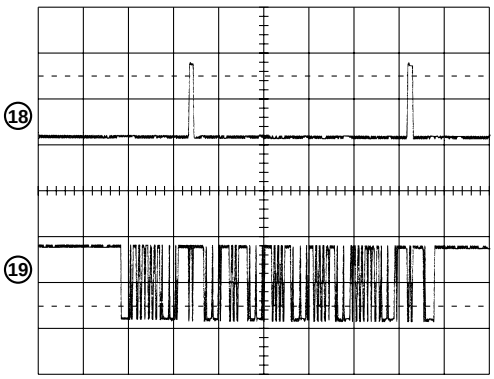


17 **IC18 - pin 36 (C_R output when selecting color difference output)**
V: 0.2V/div. H: 5msec/div.

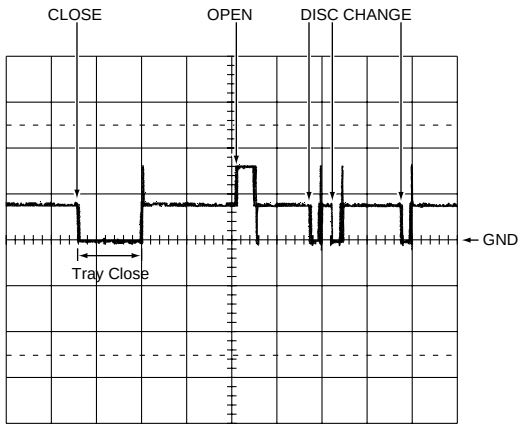


18 **CN55 - pin 5 (DISC SENS)**
V: 2V/div. H: 1sec/div.

19 **CN55 - pin 2 (TRAY POS)**
V: 2V/div. H: 1sec/div.



20 **CN55 - pin 4 (SED0)**
V: 2V/div. H: 5sec/div.



VOLTAGES

I 3/3 MAIN ASSY

IC5501 (PDC076A) • Mode: DVD Play

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage
1	4.8	26	2.4	51	-30.8	76	0
2	4.8	27	0	52	*	77	0
3	3.3	28	0	53	*	78	0
4	4.8	29	4.6	54	*	79	4.7
5	4.8	30	*	55	*	80	–
6	4.8	31	*	56	*	81	4.7
7	4.8	32	*	57	*	82	4.5
8	4.8	33	*	58	*	83	0
9	3.3	34	*	59	*	84	4.7
10	3.4	35	*	60	*	85	0
11	4.8	36	*	61	*	86	0
12	0	37	*	62	*	87	4.8
13	3.2	38	*	63	*	88	0
14	0	39	*	64	*	89	0
15	2.5	40	*	65	*	90	4.8
16	2.5	41	*	66	–	91	0
17	4.8	42	*	67	0	92	0
18	4.8	43	–	68	5.0	93	0
19	4.9	44	–	69	4.2	94	0
20	0	45	–	70	0	95	0
21	0	46	4.8	71	0	96	0
22	4.8	47	*	72	4.8	97	4.8
23	0.2	48	*	73	4.9	98	0
24	4.7	49	*	74	0	99	4.8
25	–	50	*	75	0	100	4.6

Note * : FL drive voltage, pulse waveform of Low level is VFDP (about -31V) and High level is VDD (+5V).

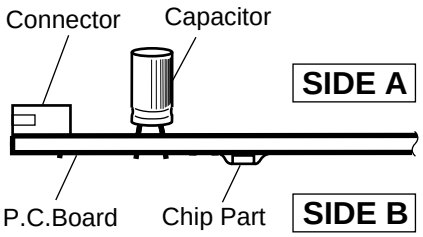
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

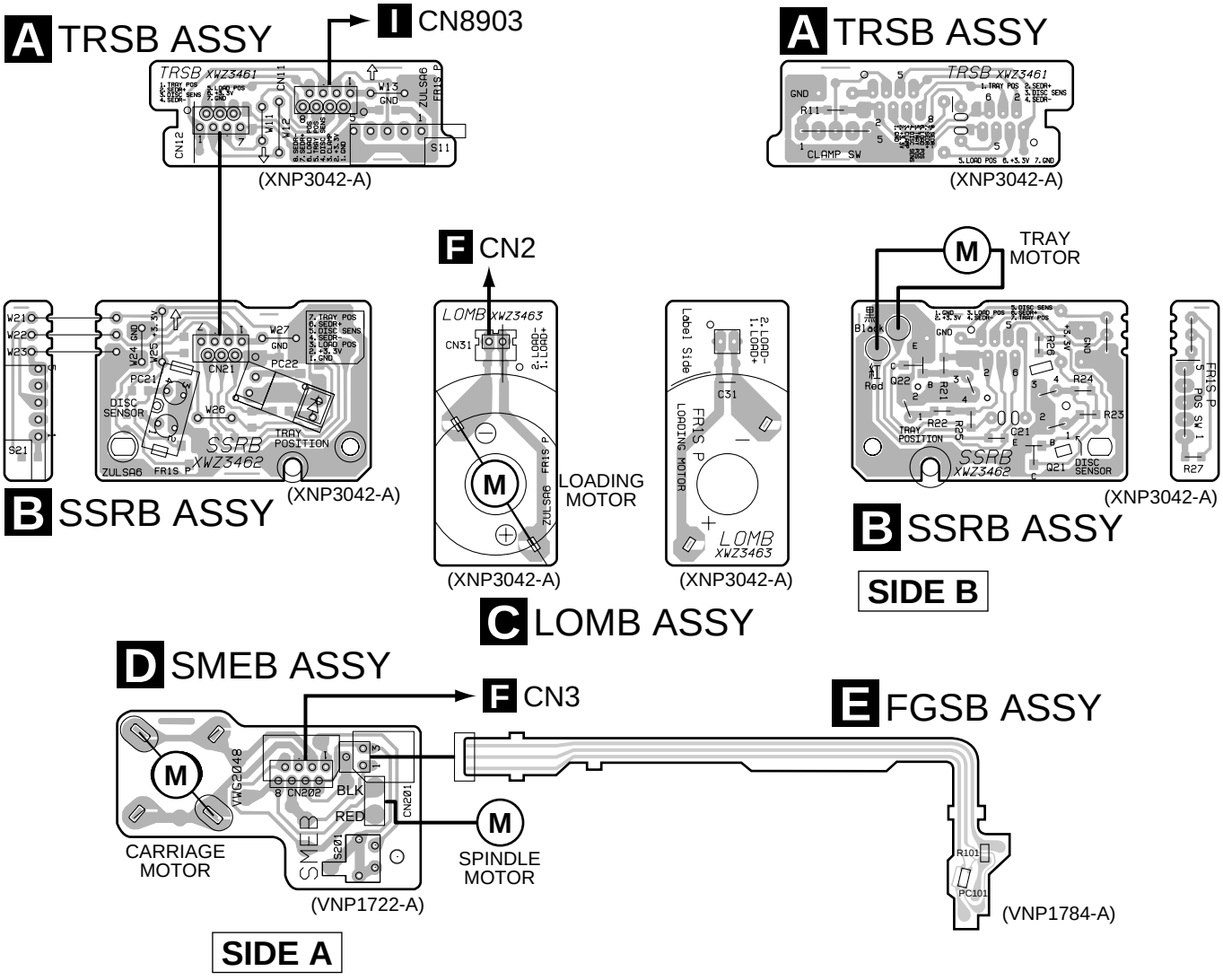
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

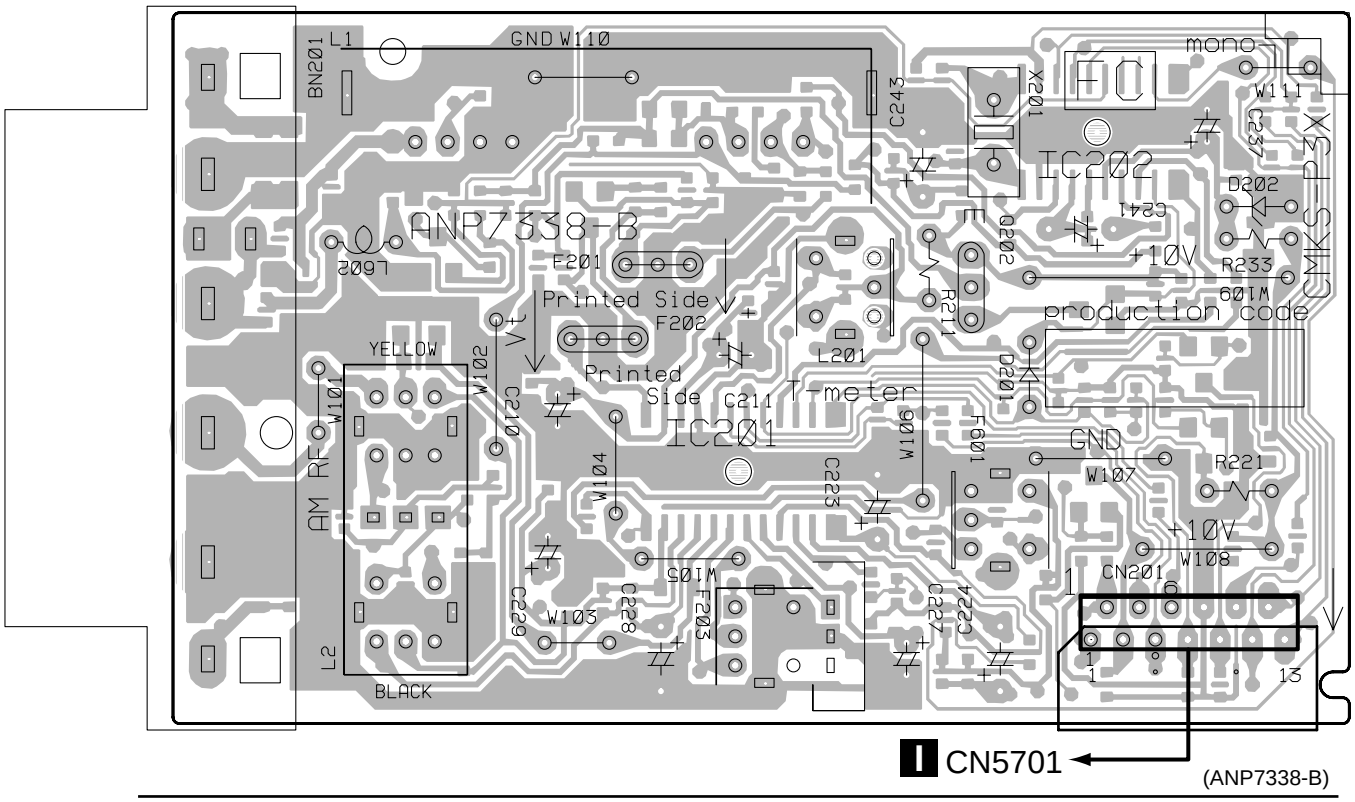


4.1 TRSB, SSRB, LOMB, SMEB and FGSB ASSYS



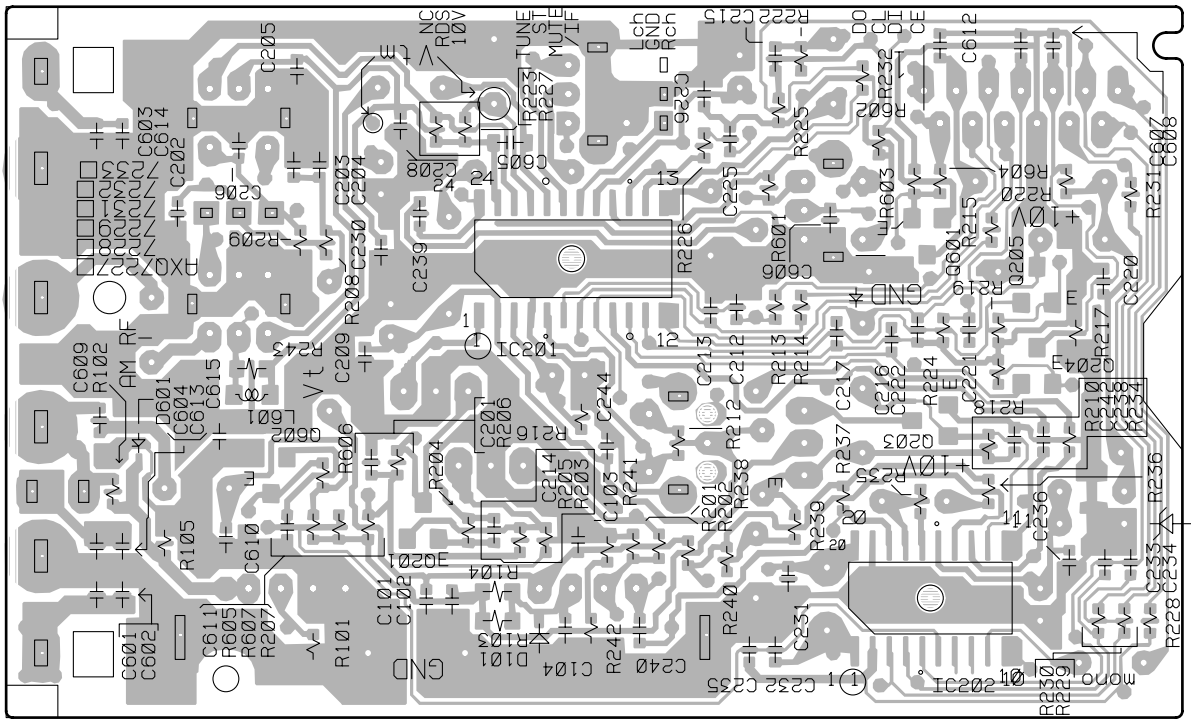
4.2 TUNER MODULE

J TUNER MODULE **SIDE A**



Q202

J TUNER MODULE **SIDE B**

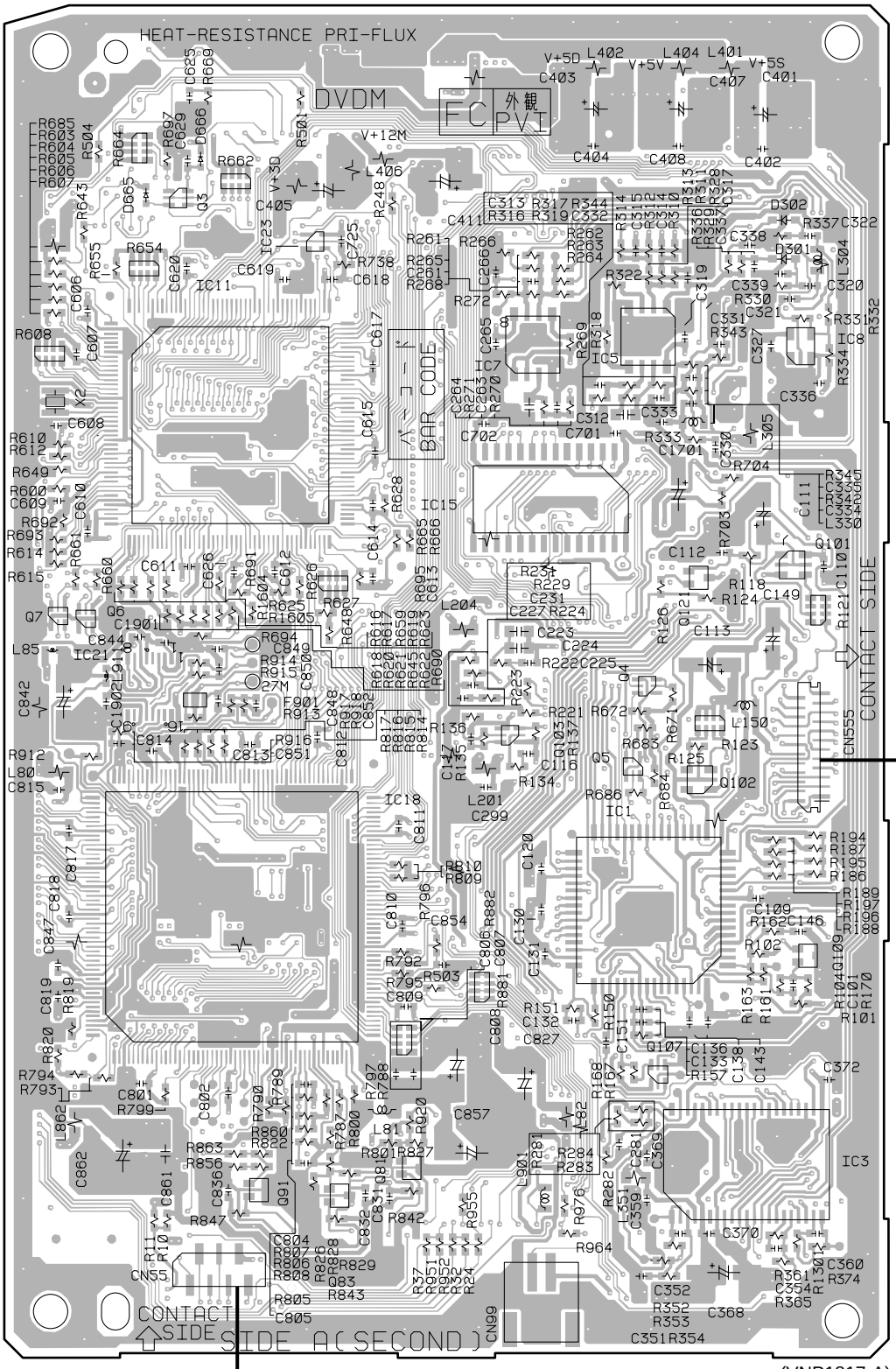


Q201 IC201 Q203 IC202 Q205 Q204

4.3 DVDM ASSY

F DVDM ASSY

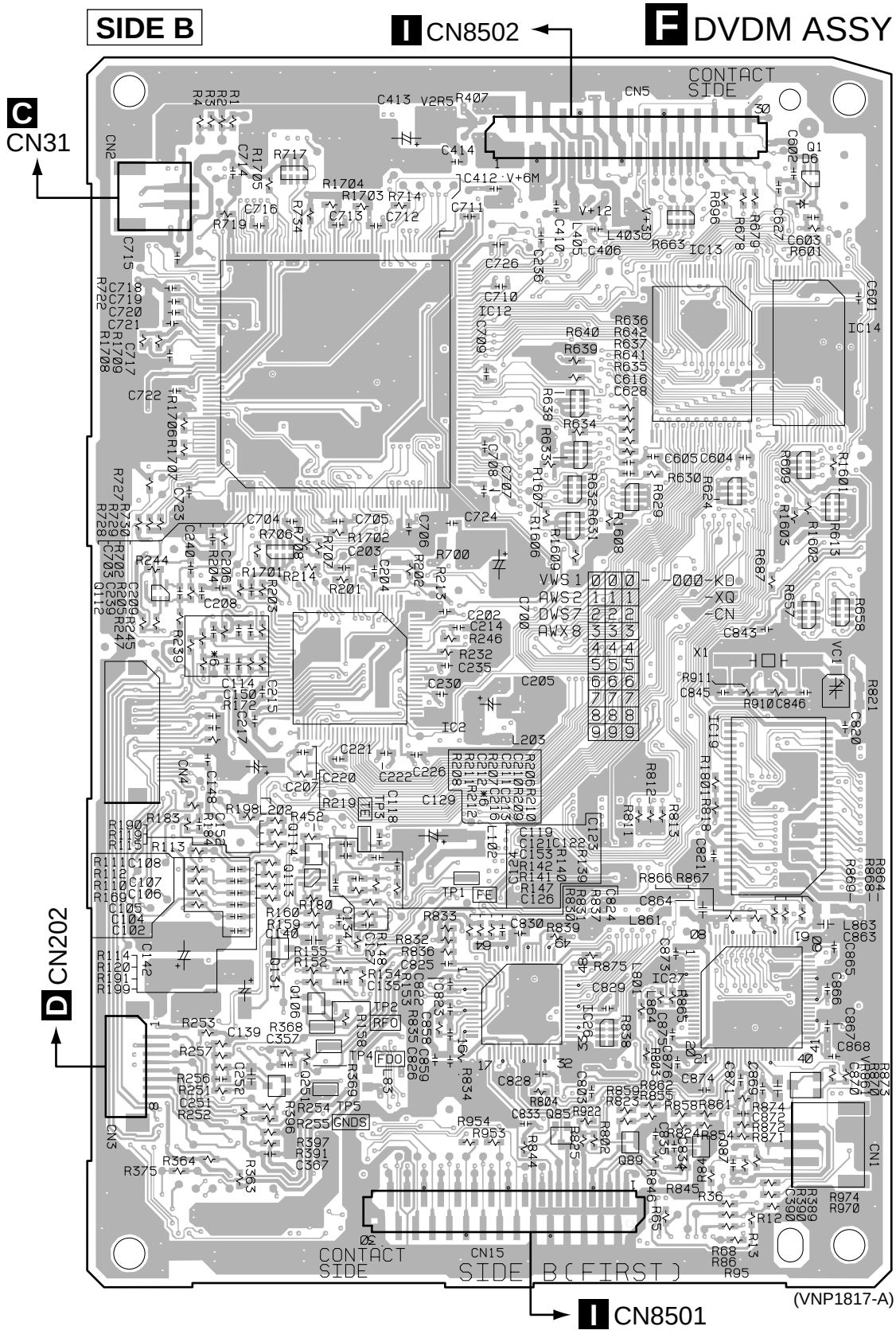
SIDE A



PICKUP ASSY

(VNP1817-A)

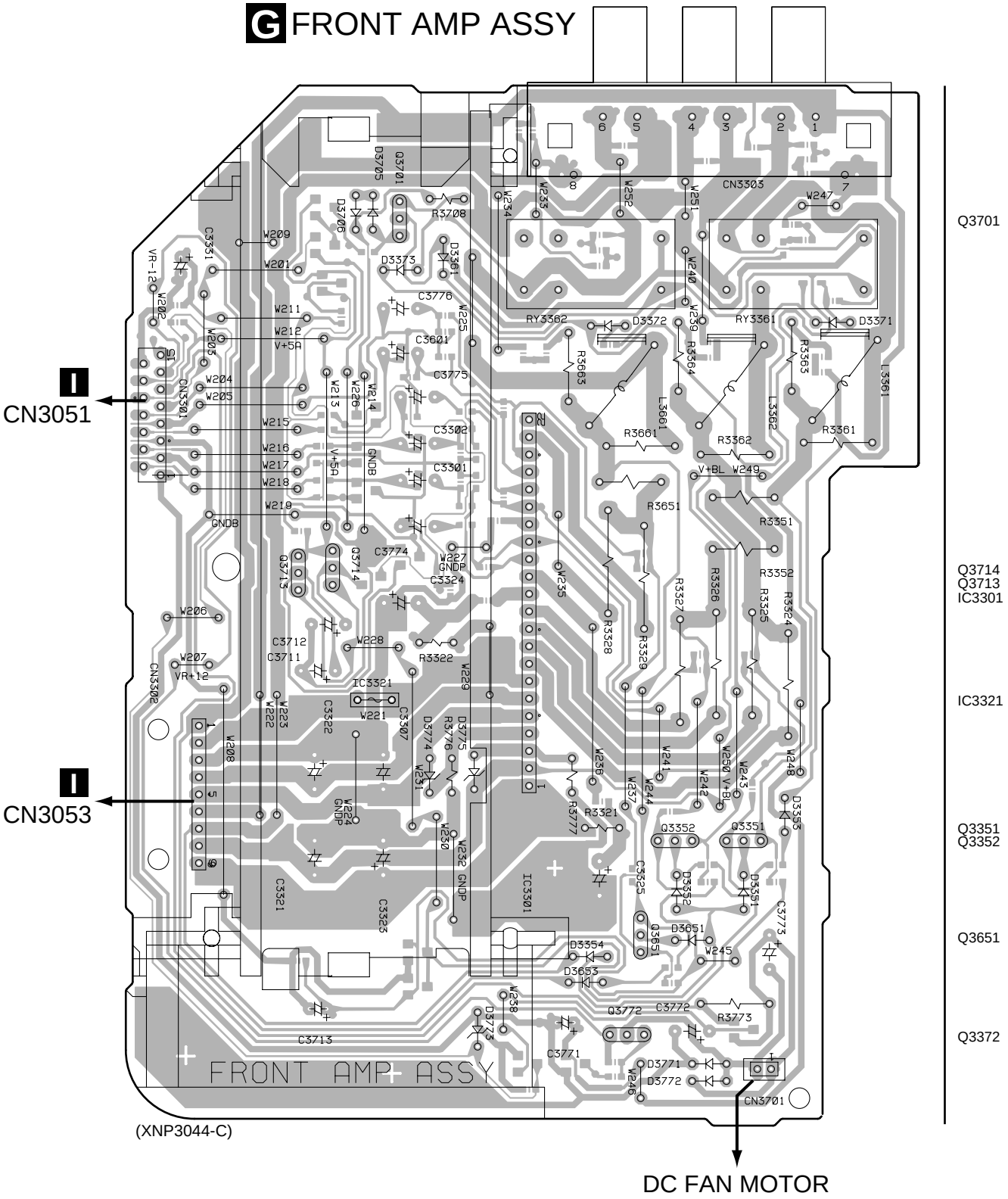
I CN8902



Q1
IC12 IC13 IC14
Q112
IC2
IC19
Q114
Q113
Q131
Q106 IC26 IC27
Q251
Q85 Q89 Q87

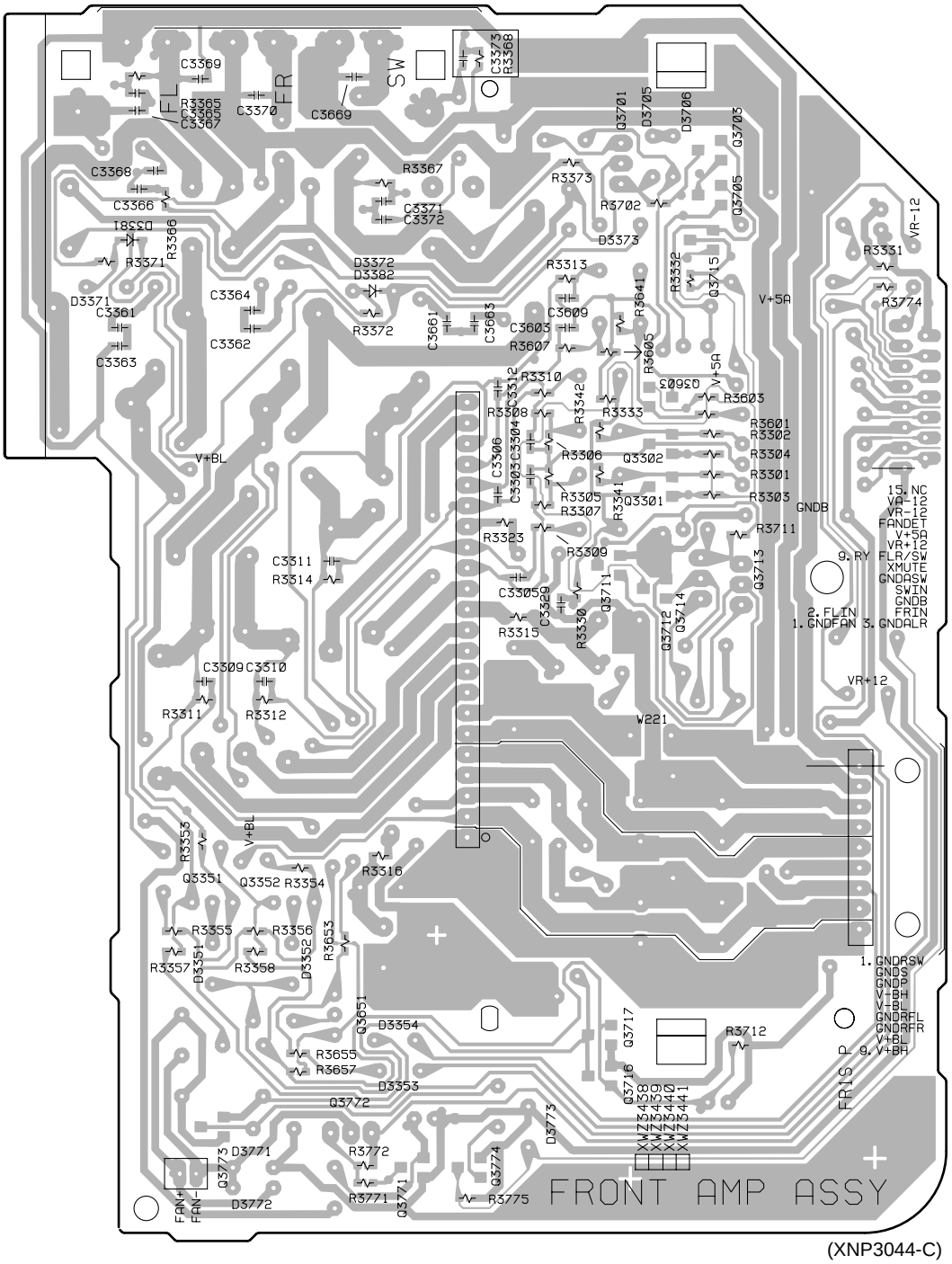
4.4 FRONT AMP ASSY

G FRONT AMP ASSY



SIDE A

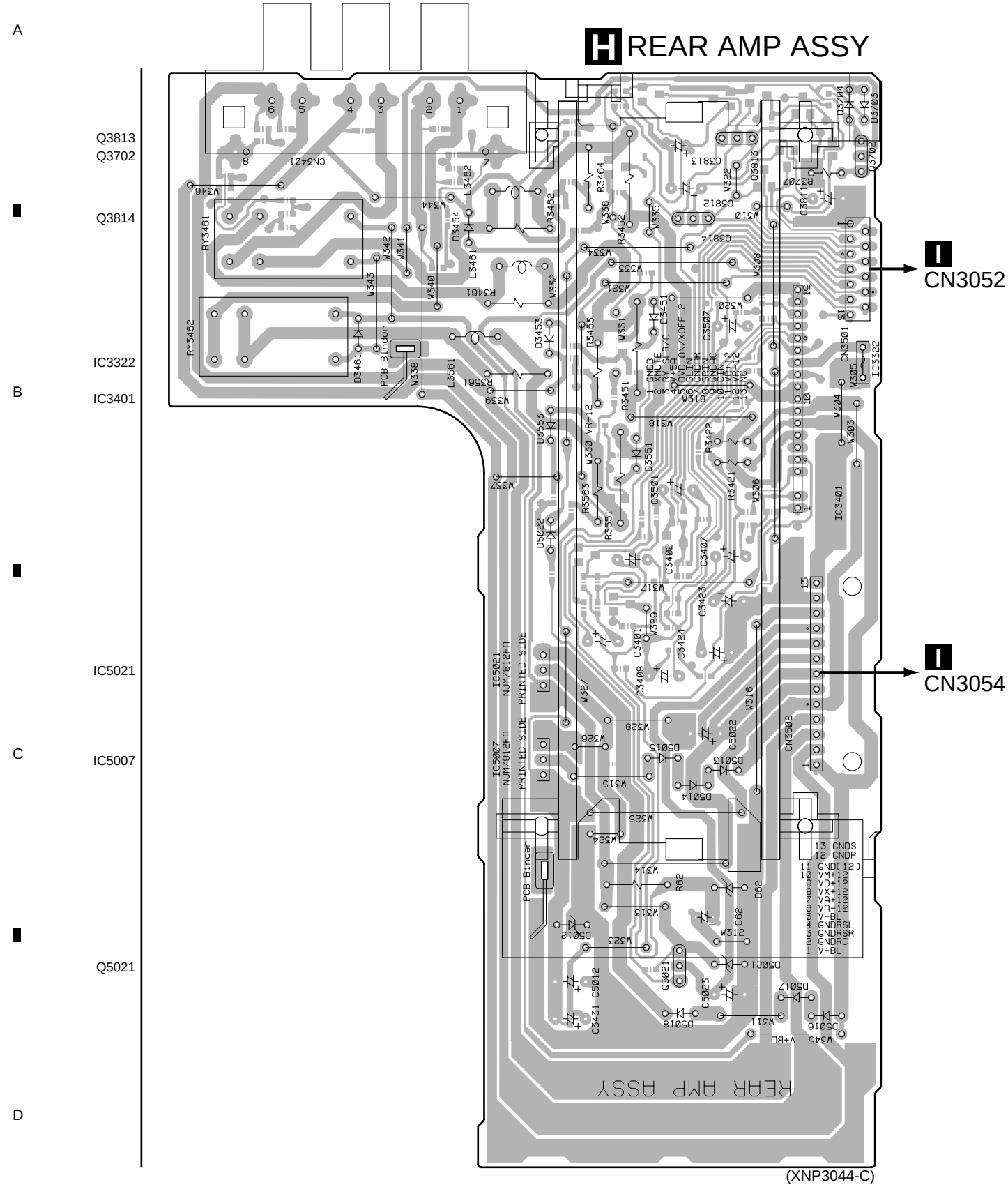
G FRONT AMP ASSY



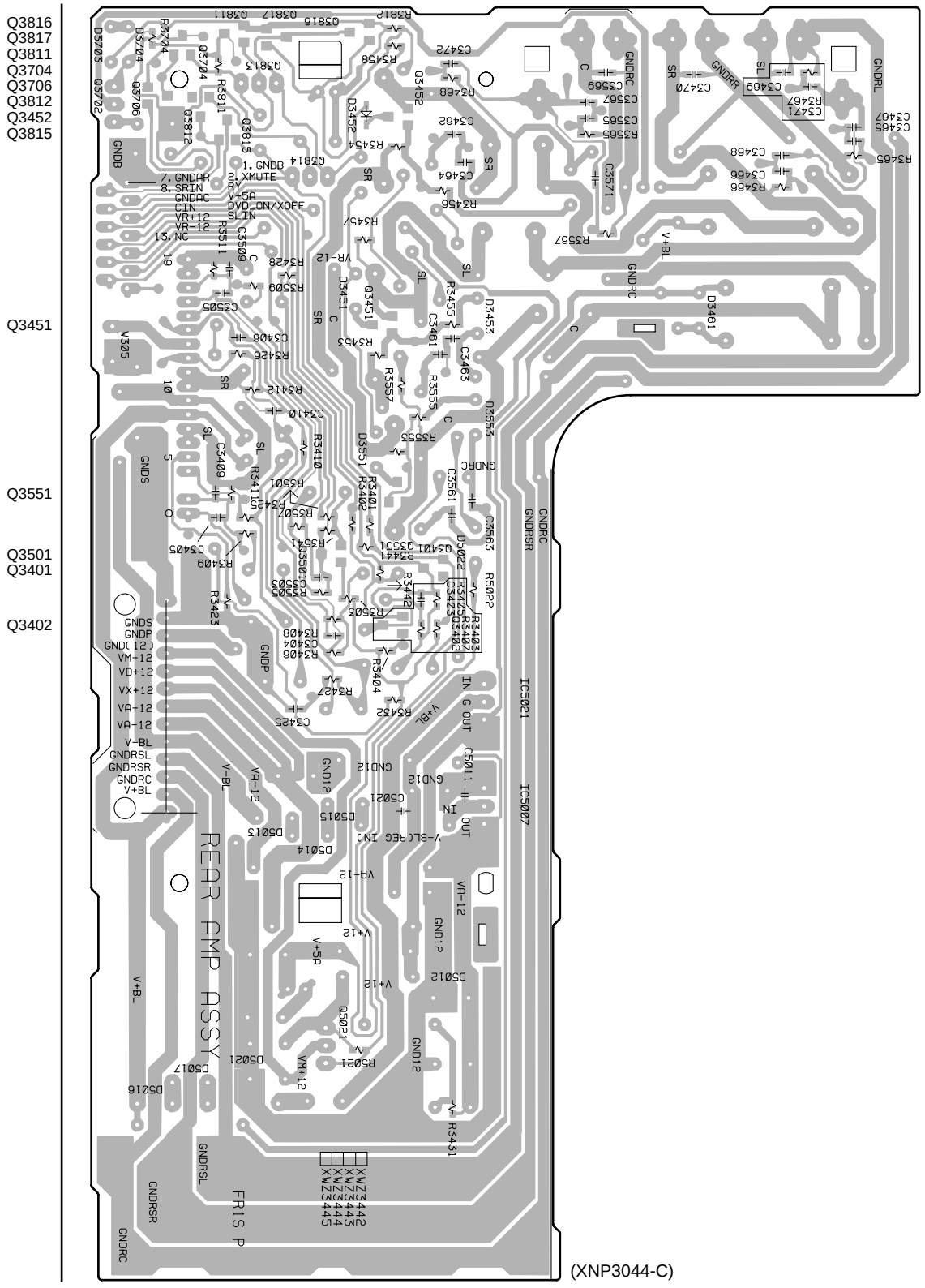
(XNP3044-C)

SIDE B

4.5 REAR AMP ASSY

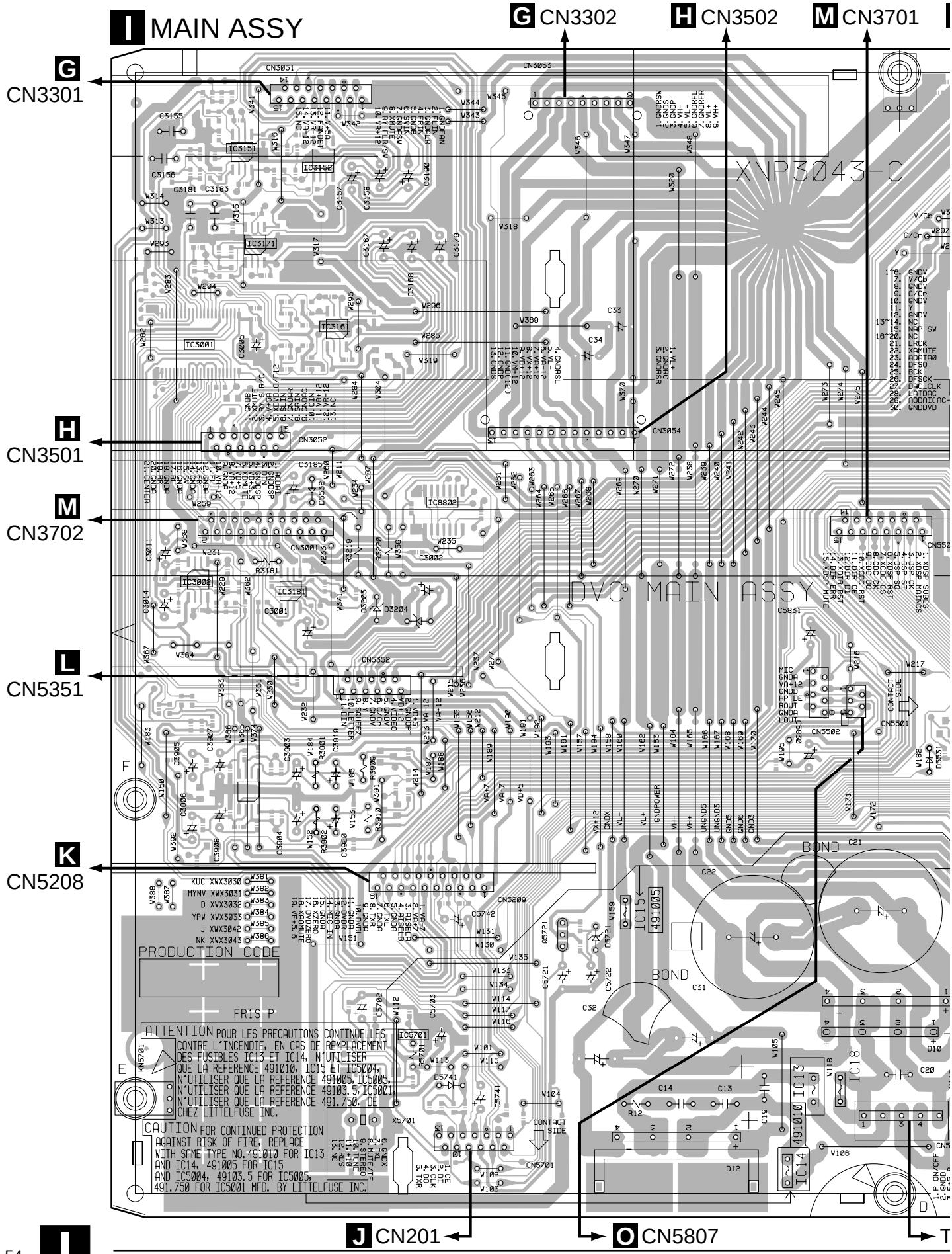


H REAR AMP ASSY

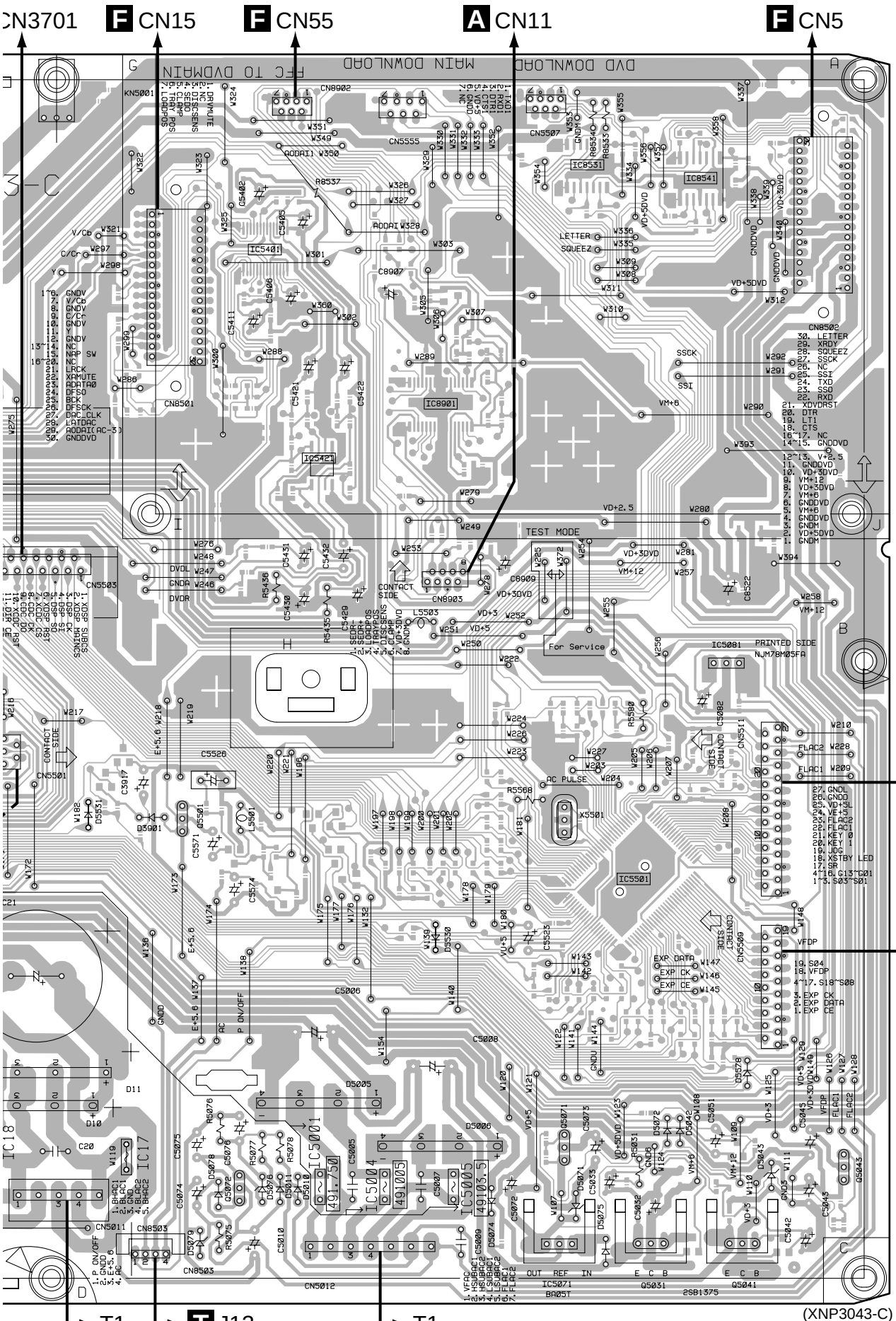


SIDE B

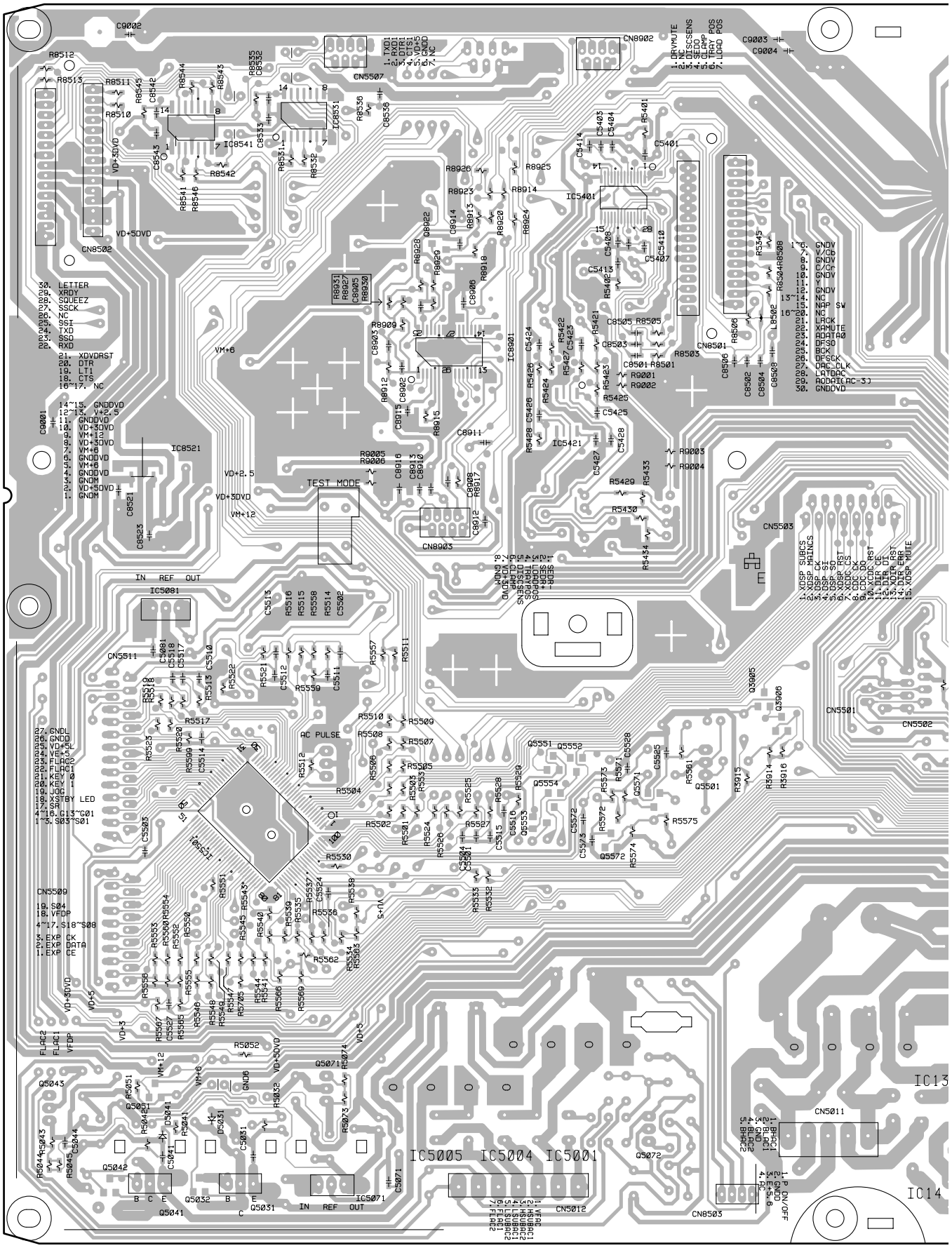
4.6 MAIN ASSY

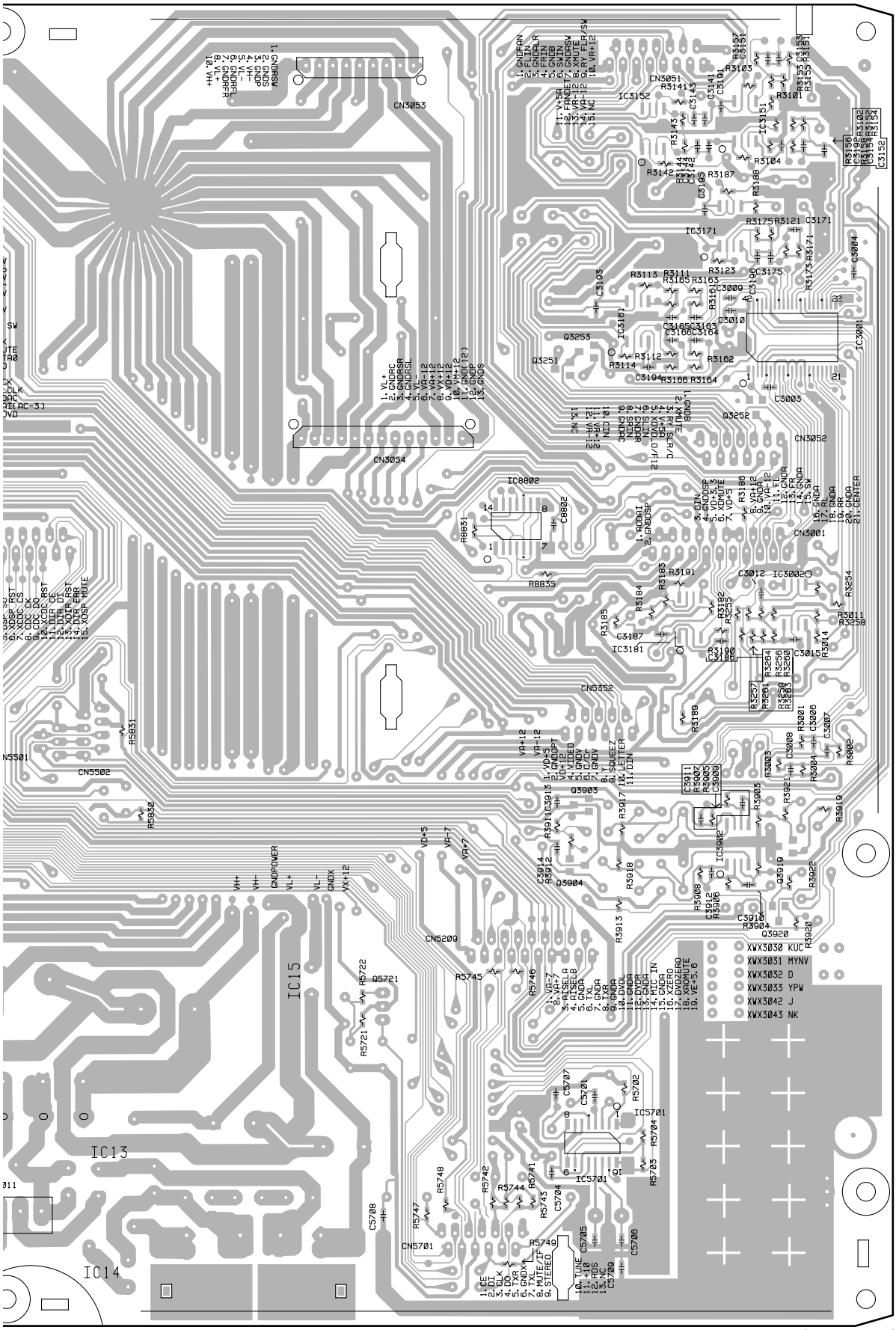

I MAIN ASSY
G CN3302
H CN3502
M CN3701
G CN3301
H CN3501
M CN3702
L CN5351
K CN5208
J CN201
O CN5807
XNP3043-C
DVC MAIN ASSY
PRODUCTION CODE
FR1S-P
BOND
IC15 491005
IC14 491010
IC13
IC18
CONTACT SIDE
ATTENTION POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDIE, EN CAS DE REMPLACEMENT DES FUSIBLES IC13 ET IC14, N'UTILISER QUE LA REFERENCE 491010. IC15 ET IC5004, N'UTILISER QUE LA REFERENCE 491005. IC5005, N'UTILISER QUE LA REFERENCE 49103.5. IC5001, N'UTILISER QUE LA REFERENCE 491.750. DE CHEZ LITTELFUSE INC.
CAUTION FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE WITH SAME TYPE NO.491010 FOR IC13 AND IC14, 491005 FOR IC15 AND IC5004, 49103.5 FOR IC5005, 491.750 FOR IC5001 MFD. BY LITTELFUSE INC.

IC3002 IC3151 IC3152 IC3171 IC3181 IC3161 Q5721 IC15 IC14 IC13 IC18


CN3701
F CN15
F CN55
A CN11
F CN5
N CN5802
N CN5801
T1
T J13
T1
SIDE A
(XNP3043-C)
IC17
Q5501
Q5072
IC5001
IC5004
IC5005
IC5071 Q5071
Q5031
IC5081 Q5041
Q5043

MAIN ASSY


IC8521 IC8541 IC5501 IC8531 IC8901 Q5551-Q5554 IC5401 Q3905
Q5042 IC5081 Q5032 Q5572 Q5571 Q3906



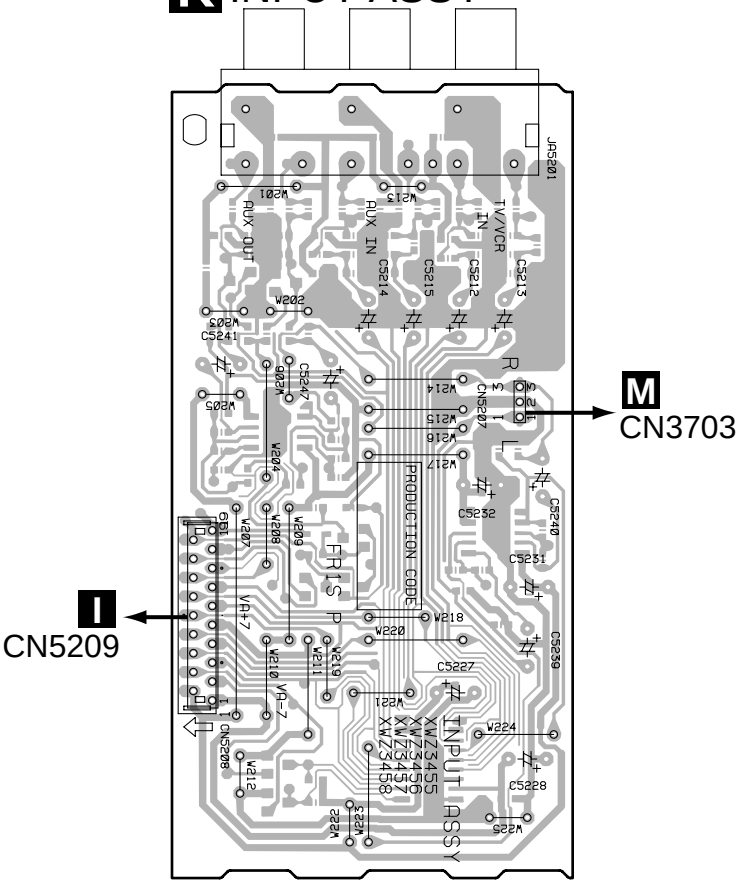
SIDE B

(XNP3043-C)

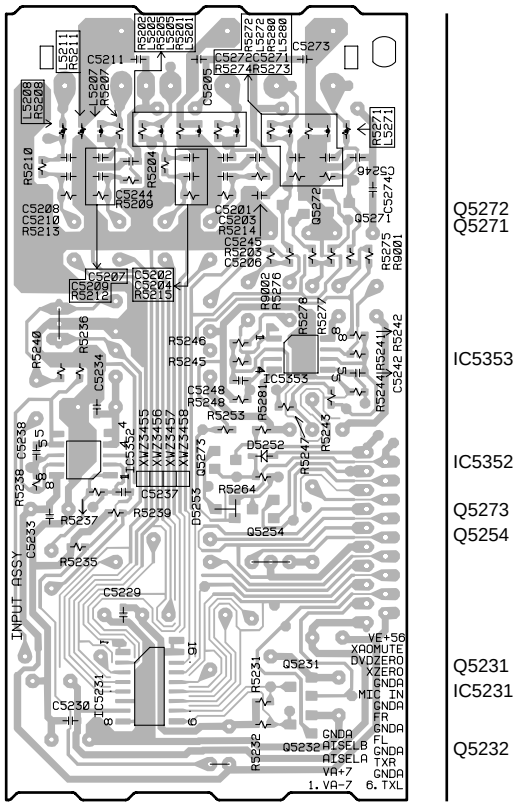
IC8802 Q3251 Q3253 Q3252 IC3001
Q3904 Q3903 IC5701 Q3919

4.7 INPUT and VIDEO ASSYS

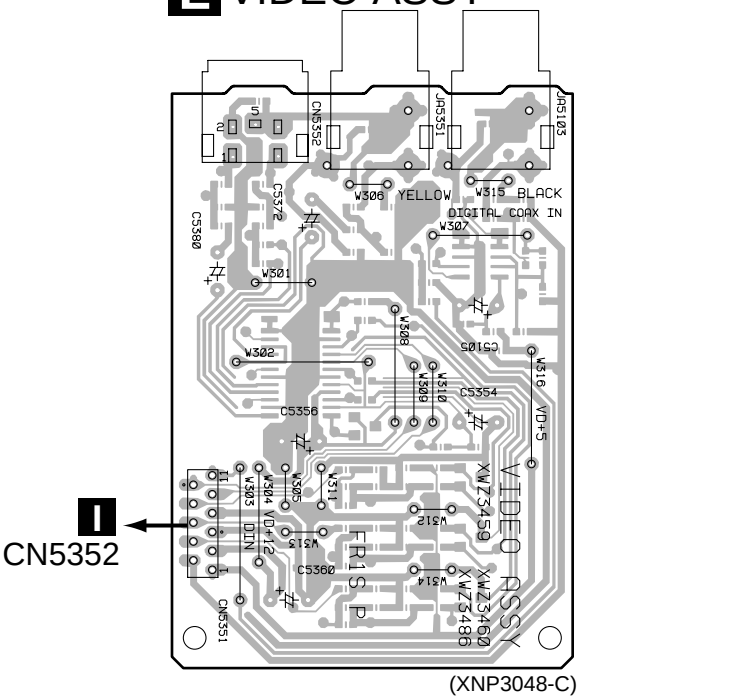
K INPUT ASSY



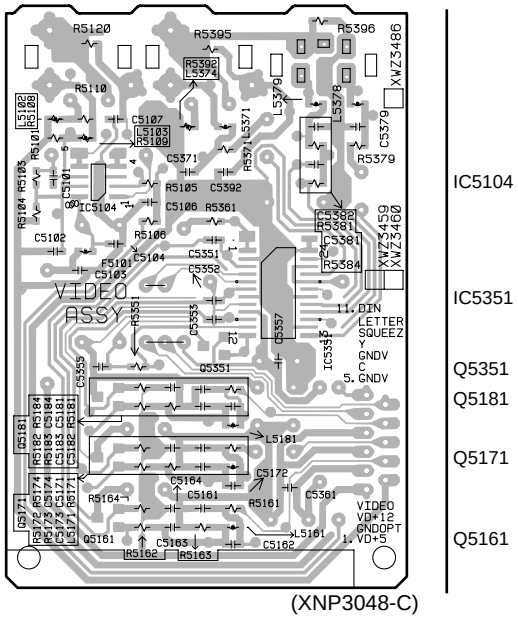
K INPUT ASSY



L VIDEO ASSY



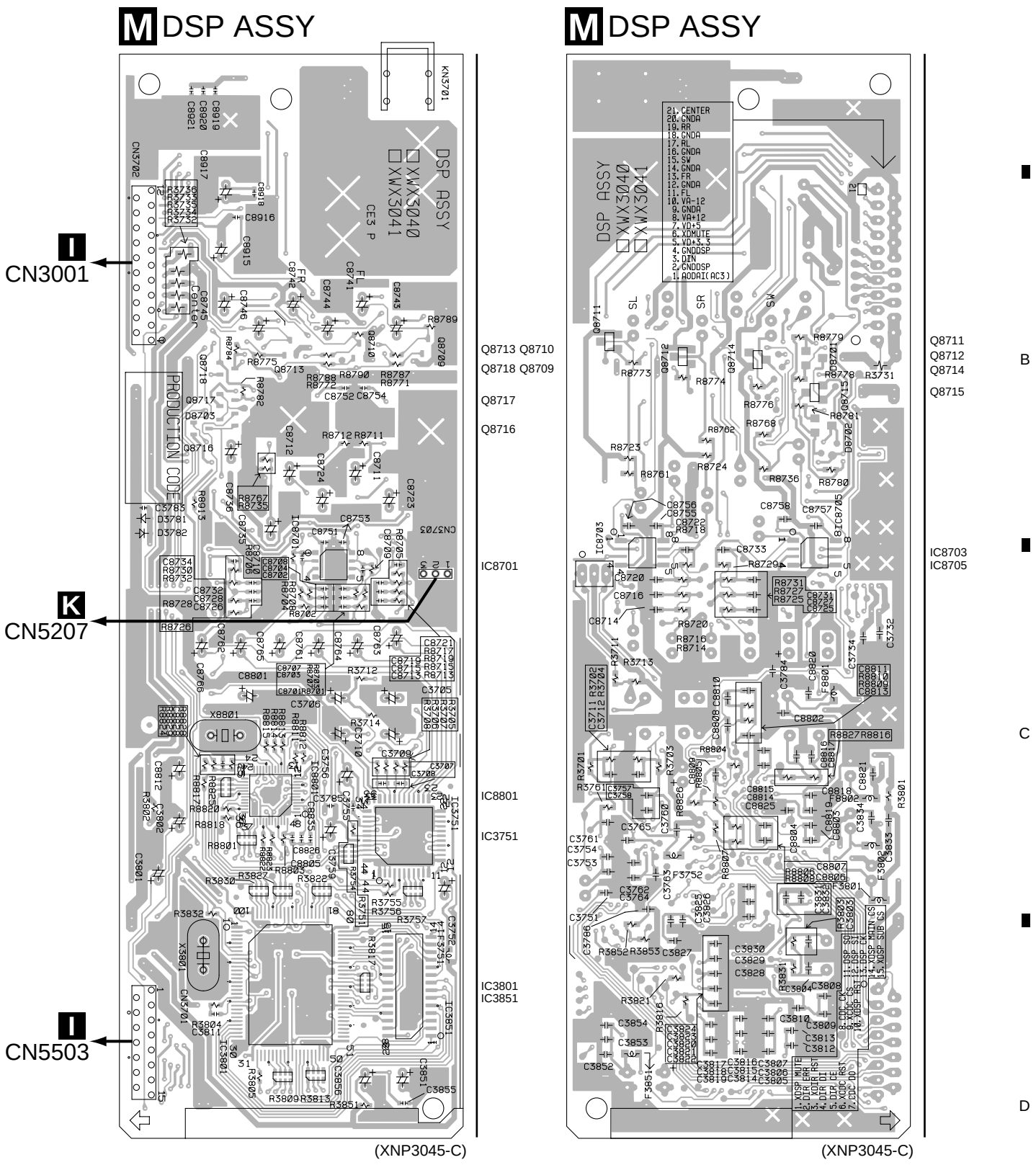
L VIDEO ASSY



SIDE A

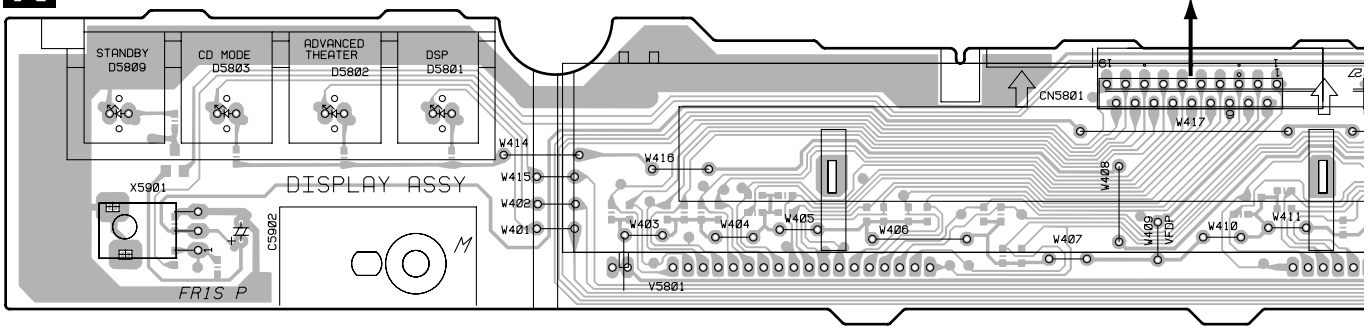
SIDE B

4.8 DSP ASSY

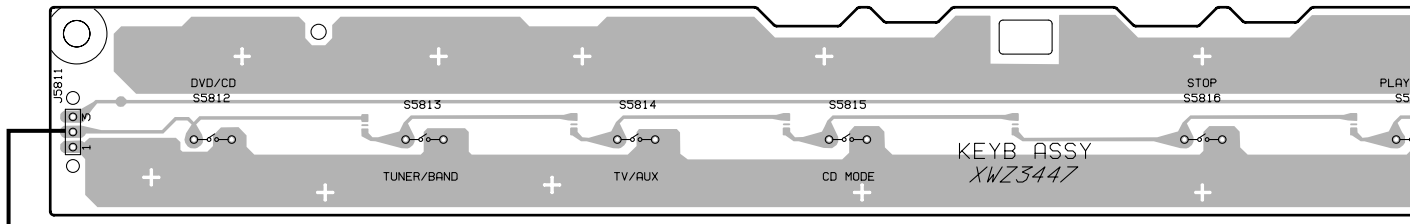

M DSP ASSY
M DSP ASSY
I
CN3001
K
CN5207
I
CN5503
Q8713 Q8710
Q8718 Q8709
Q8717
Q8716
IC8701
IC8801
IC3751
IC3801
IC3851
Q8711
Q8712
Q8714
Q8715
IC8703
IC8705
(XNP3045-C)
(XNP3045-C)
SIDE A
SIDE B

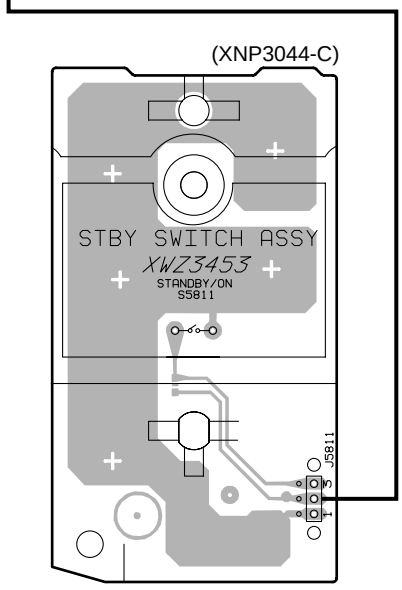
4.9 DISPLAY, MIC HP, KEYB, STBY SWITCH, JOG and DISC KEY ASSYS

N DISPLAY ASSY



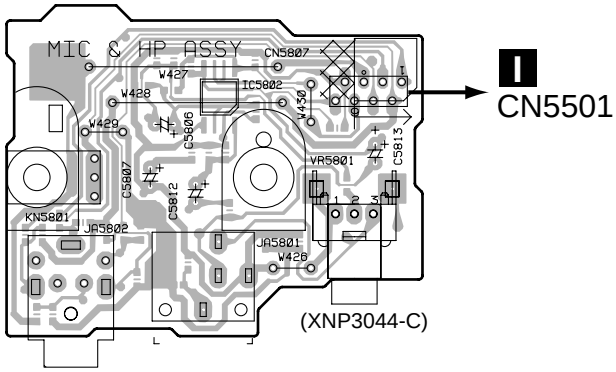
P KEYB ASSY





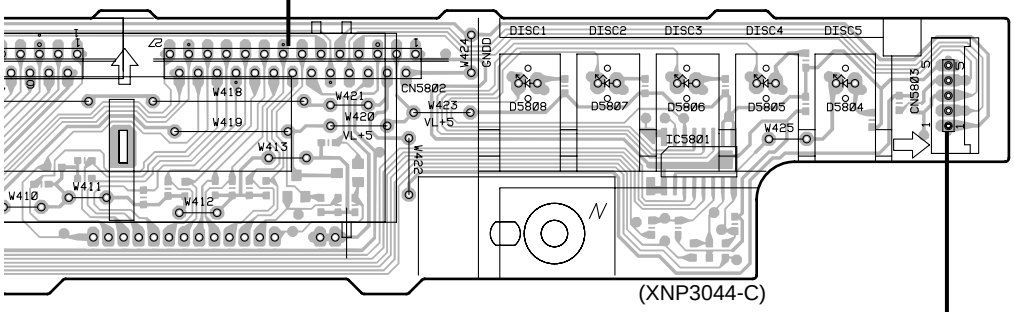
Q STBY SWITCH ASSY

O MIC HP ASSY



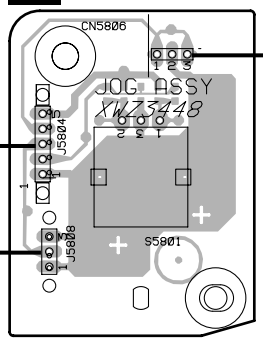
5509

I CN5511

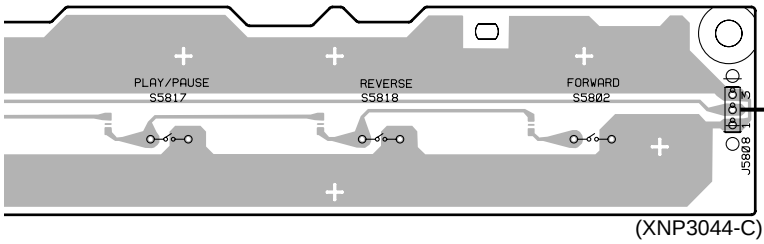


(XNP3044-C)

R JOG ASSY

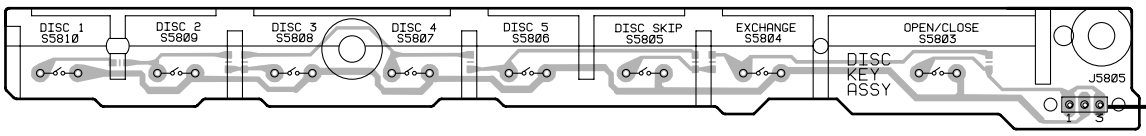


(XNP3044-C)



(XNP3044-C)

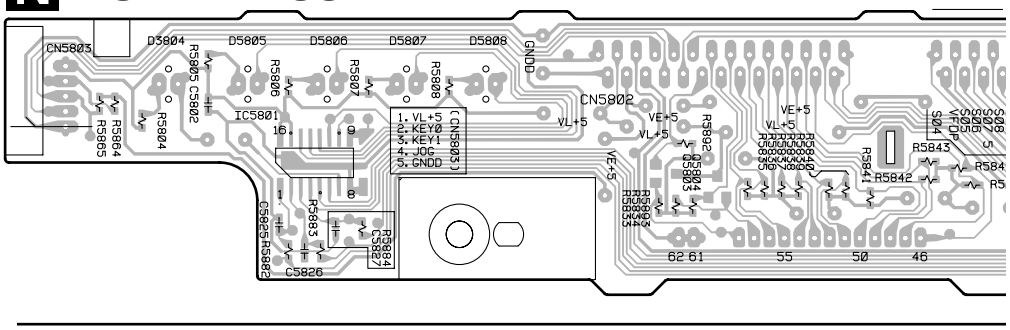
S DISC KEY ASSY



(XNP3044-C)

SIDE A

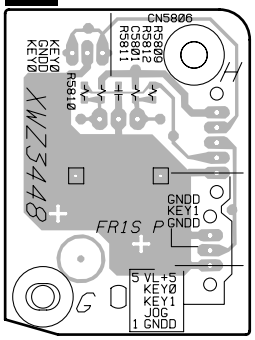
N DISPLAY ASSY



IC5801

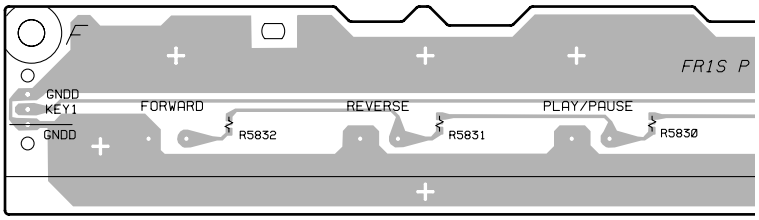
Q5804
Q5803

R JOG ASSY

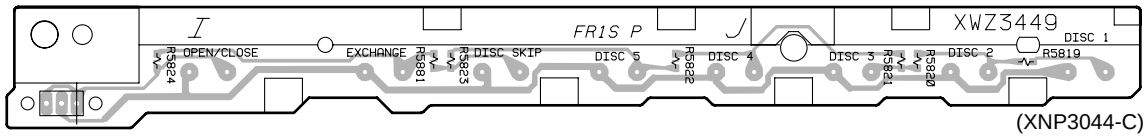


(XNP3044-C)

P KEYB ASSY

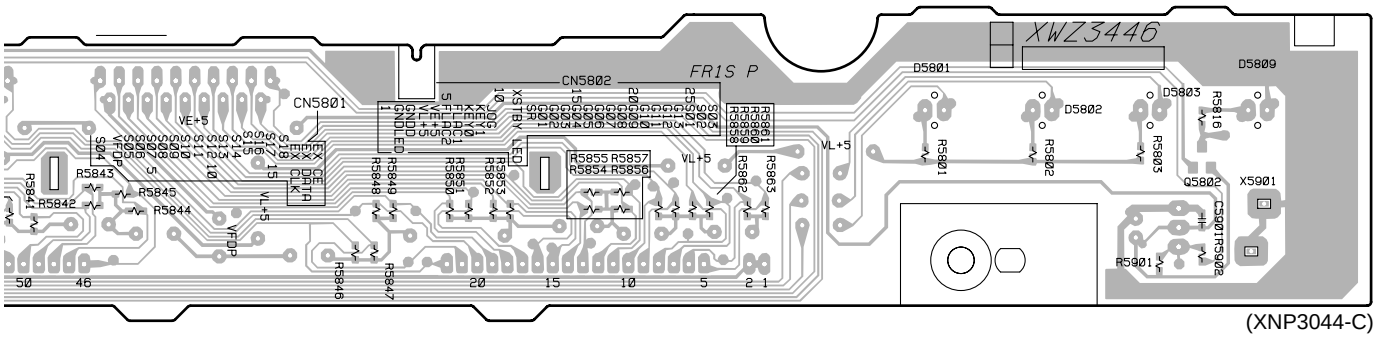


S DISC KEY ASSY



(XNP3044-C)

SIDE B


XWZ3446
FR1S P
CN5801
CN5802
D5801
D5802
D5803
D5809
R5801
R5802
R5803
R5816
Q5802
X5901
R5901
C5901
C5902
VL+5
VE+5
VFDP
R5841
R5842
R5843
R5844
R5845
R5846
R5847
R5848
R5849
R5850
R5851
R5852
R5853
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R5860
R5861
R5862
R5863
R5864
R5865
R5866
R5867
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R5916
C5801
C5802
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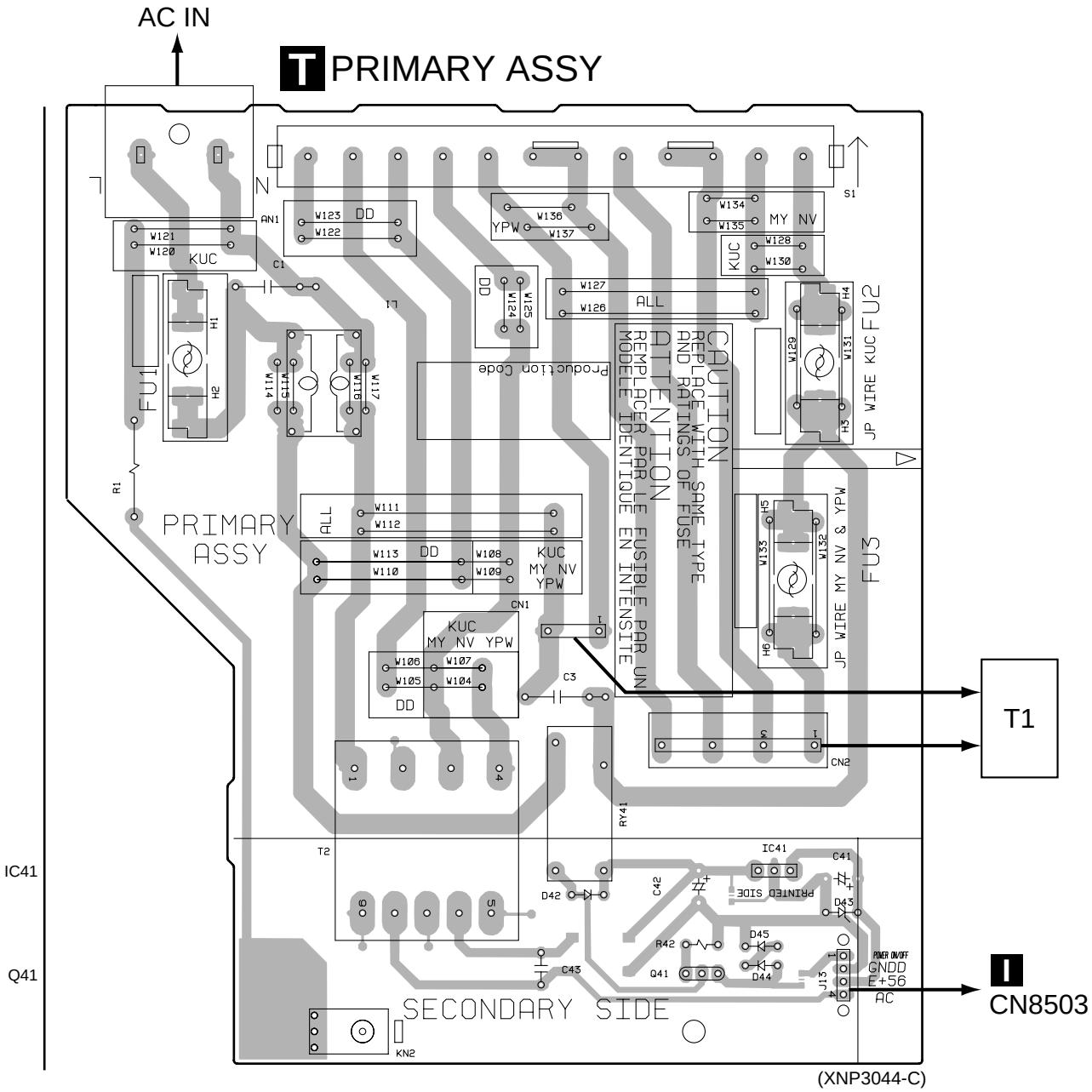
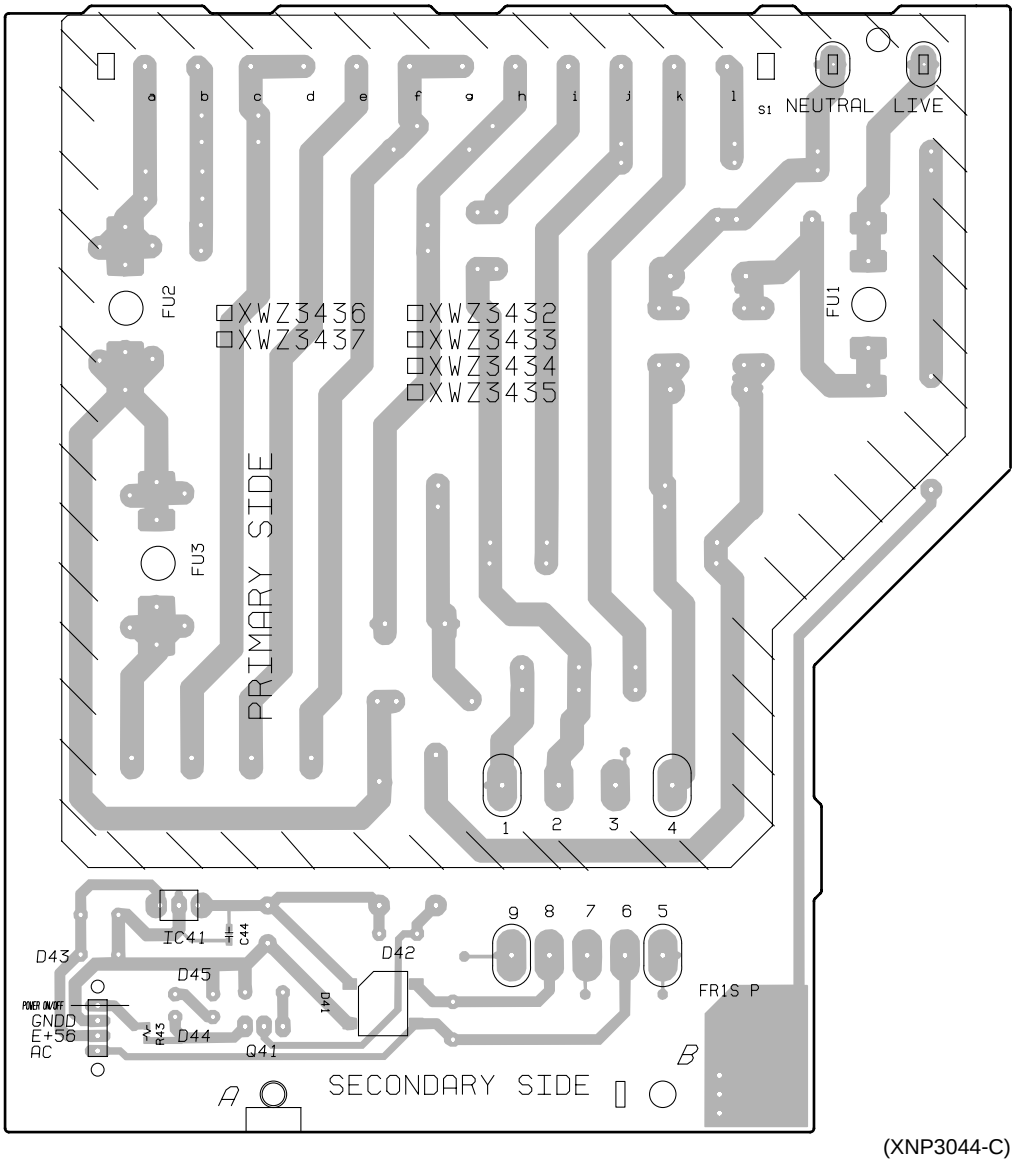
C5839
C5840

4.10 PRIMARY ASSY



SIDE A

PRIMARY ASSY



(XNP3044-C)

SIDE B

5. PCB PARTS LIST

NOTES: ●*Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
●*The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
●*When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

Mark	No.	Description	Part No.

LIST OF ASSEMBLIES

NSP	5C MECH. BASE ASSY	XXA3027
NSP	├ MECB ASSY	XWM3197
NSP	│ ├ TRSB ASSY	XWZ3461
NSP	│ ├ SSRB ASSY	XWZ3462
NSP	│ └ LOMB ASSY	XWZ3463
	└ Traverse Mechanism Assy-S	VXX2653
NSP	├ SMEB ASSY	VWG2048
NSP	└ FGSB ASSY	VWG2009
NSP	COMPLEX ASSY	XWM3187
	├ PRIMARY ASSY	XWZ3432
	├ FRONT AMP ASSY	XWZ3438
	├ REAR AMP ASSY	XWZ3442
	├ DISPLAY ASSY	XWZ3446
	├ KEYB ASSY	XWZ3447
NSP	├ JOG ASSY	XWZ3448
NSP	├ DISC KEY ASSY	XWZ3449
	├ MIC HP ASSY	XWZ3450
NSP	└ STBY SWITCH ASSY	XWZ3453
NSP	CONNECT ASSY	XWM3193
	├ INPUT ASSY	XWZ3455
	└ VIDEO ASSY	XWZ3459
	DVDM ASSY	XWX3034
	MAIN ASSY	XWX3030
	DSP ASSY	XWX3040
	TUNER MODULE	AXQ7228

A TRSB ASSY

SWITCH

	S11	VSK1011

RESISTORS

	R11	RS1/10S0R0J

OTHERS

	CN12 7P FFC CONNECTOR	VKN1211
	CN11 8P FFC CONNECTOR	VKN1268

Mark	No.	Description	Part No.

B SSRB ASSY

SEMICONDUCTORS

	Q21	2SC2412K
	Q22	DTC124EK
	PC21	GP2S28
	PC22	RPI-574

SWITCH

	S21	VSK1011

CAPACITOR

	C21	CKSQYB102K50

RESISTORS

	All Resistors	RS1/10S□□□J

OTHERS

	CN21 7P FFC CONNECTOR	VKN1211

C LOMB ASSY

CAPACITOR

	C31	CKSQYB102K50

OTHERS

	CN31 KR CONNECTOR	B2B-PH-K

D SMEB ASSY

SWITCH

	S201	DSG1016

OTHERS

	CN201 3P FFC CONNECTOR	52044-0345
	CN202 8P FFC CONNECTOR	VKN1212
	PC BOARD SMEB	VNP1722

Mark	No.	Description	Part No.
E	**FGSB ASSY**		
	SEMICONDUCTOR		
	PC101		GP2S60
	RESISTOR		
	R101		RS1/10S331J
F	**DVDM ASSY**		
	SEMICONDUCTORS		
	IC5,IC7		BA4510F
	IC21		BU2288FV
	IC14		KM68V1000CLT-7L
	IC1		LA9701M
	IC2		LC78652W
	IC3		M56788FP
	IC19		MB811171622A-100FN
	IC18		MB86373B
	IC15		MN414800CSJ-07
	IC11		PD3410A
	IC12		PE5108A
	IC8		TC7SHU04F
	IC13		XYW3003
	Q106,Q109,Q81,Q83,Q85		2SA1576A
	Q114,Q121,Q251		2SC4081
	Q131		DTC114EUA
	Q102		HN1A01F
	Q103,Q6,Q7		HN1B04FU
	Q101		HN1C01F
	Q112,Q113		HN1C01FU
	Q107,Q4,Q5		RN1902
	Q3		RN1911
	Q1		RN4982
	D301		KV1471E
	D6		RB501V-40
	COILS		
	L150,L330		LCYA100J2520
	L304		LCYA2R7J2520
	L81	CHIP COIL	VTL1067
	L9170	CHIP BEAD	VTL1084
	CAPACITORS		
	C845,C846,C849-C852		CCSRCH100D50
	C123,C146,C613,C806,C843		CCSRCH101J50
	C372,C402,C404,C408		CCSRCH101J50
	C322		CCSRCH120J50
	C135		CCSRCH121J50
	C104-C108		CCSRCH150J50
	C206,C210,C211		CCSRCH151J50
	C333		CCSRCH180J50
	C314,C336		CCSRCH220J50
	C152		CCSRCH221J50
	C151		CCSRCH270J50
	C127,C209,C337		CCSRCH331J50
	C116,C134,C236		CCSRCH470J50
	C122,C208		CCSRCH471J50
	C126,C335		CCSRCH560J50
	C334		CCSRCH5R0C50
	C124,C132		CCSRCH680J50
	C117,C240,C352,C360		CCSRCH681J25
	C129,C142,C842		CEV101M10
	C113,C139		CEV220M16
	C405,C413,C700,C808		CEV221M4
	C368,C411		CEV470M16
	C111,C149,C205,C207,C401		CEV470M6R3
	C403,C407		CEV470M6R3
	C140,C223,C224,C252,C264		CKSQYB105K10
	C312		CKSQYB105K10
	C216,C313		CKSRYB102K50
	C133,C136,C203,C220,C225		CKSRYB103K50
	C239,C320,C321,C330,C625		CKSRYB103K50
	C703,C711		CKSRYB103K50
	C101,C102,C114,C118,C119		CKSRYB104K25
	C121,C138,C204,C212,C213		CKSRYB104K25
	C227,C231,C263,C315,C317		CKSRYB104K25
	C332,C804,C604,C606,C609		CKSRYB104K25
	C611,C612,C614,C617,C619		CKSRYB104K25
	C705,C707,C709,C710,C713		CKSRYB104K25
	C714,C722,C724,C807,C809		CKSRYB104K25
	C811,C812,C814,C815,C817		CKSRYB104K25
	C819,C821		CKSRYB104K25
	C153,C266,C357		CKSRYB223K50
	C214,C251,C261,C351,C354		CKSRYB472K50
	C109,C110,C120,C130,C131		CKSRYF104Z50
	C143,C150,C1901,C1902,C202		CKSRYF104Z50
	C215,C221,C222,C226,C230		CKSRYF104Z50
	C235,C265,C299,C319,C359		CKSRYF104Z50
	C367,C369,C370,C601,C605		CKSRYF104Z50
	C607,C608,C610,C615,C618		CKSRYF104Z50
	C620,C626,C701,C702,C704		CKSRYF104Z50
	C706,C708,C712,C715-C721		CKSRYF104Z50
	C723,C726,C820,C844		CKSRYF104Z50
	C148,C217,C327,C801,C802		CKSRYF105Z10
	C810,C813,C818,C828,C830		CKSRYF105Z10
	RESISTORS		
	R632		RAB4C0R0J
	R657,R658		RAB4C103J
	R121,R663		RAB4C220J
	R123		RAB4C390J
	R202,R3510		RS1/10S101J
	R700		RS1/10S1R0J
	R807		RS1/16S1201F
	R806		RS1/16S1501F
	R363,R365		RS1/16S1503F
	R825-R827		RS1/16S2000F
	R805		RS1/16S2701F
	R361,R364		RS1/16S7502F
	Other Resistors		RS1/16S□□□J
	OTHERS		
	X2	CHIP CERALOCK (20MHz)	DSS1110
	CN2	PH CONNECTOR	S2B-PH-SM3
		FLEXIBLE CABLE(07P)	VDA1681
	CN555	24P FFC CONNECTOR	VKN1464
	CN55	7P FFC CONNECTOR	VKN1493
	CN15,CN5	B TO B CONNECTOR 30P	VKN1626
	CN3	8P FFC CONNECTOR	VKN1763
	X1	CRYSTAL RESONATOR (27.000MHz)	VSS1159

Mark	No.	Description	Part No.

G FRONT AMP ASSY

SEMICONDUCTORS

⚠	IC3301		STK413-000
	Q3351,Q3352,Q3651		2SC2240
	Q3716,Q3717		2SC2412K
	Q3701		2SD1858X
	Q3301,Q3302,Q3603		2SD2114K
	Q3772		2SD2144S
	Q3713,Q3714		DTA123JS
	Q3771		DTA124EK
	Q3773		DTA124TK
	Q3703,Q3715		DTA143EK
	Q3705		DTC123TK
	Q3774		DTC124EK
	Q3711,Q3712		DTC143EK
	D3771		11ES2
	D3351-D3354,D3361,D3371,D3372		1SS133
	D3651,D3653,D3705,D3706,D3772		1SS133
	D3774,D3775		MTZJ15B

COILS

	L3361,L3362,L3661	ATH1004

RELAYS

	RY3361,RY3362	XSR3002

CAPACITORS

	C3305,C3306,C3312	CCSRCH101J50
	C3309-C3311	CCSRCJ3R0C50
	C3713	CEAL101M10
	C3771	CEAT101M16
	C3322-C3325	CEAT101M63
	C3772	CEAT2R2M50
	C3601	CEJQ100M35
	C3712,C3774,C3775	CEJQ101M10
	C3331	CEJQ220M25
	C3301,C3302	CEJQ2R2M50
	C3711,C3776	CEJQ470M16
	C3307,C3321	CEJQNP330M35
	C3609	CKSRYB102K50
	C3603	CKSRYB103K50
	C3361-C3364,C3661,C3663	CKSRYB104K25
	C3303,C3304	CKSRYB222K50

RESISTORS

	R3363,R3364,R3663	RD1/2PM4R7J
	R3361,R3362,R3661	RD1/2PMF100J
	R3321,R3322	RD1/4MUF101J
	R3708	RD1/4PU120J
	R3776,R3777	RD1/4PU152J
⚠	R3773	RF1/4PS330J
	R3324-R3329	RS2LMFR22J
	R3351,R3352,R3651 (0.22Ω/5W)	XCN3001
	Other Resistors	RS1/16S□□□J

OTHERS

	CN3302	09P CONNECTOR PLUG	AKM7063
	CN3301	15P SOCKET	AKP7071
	CN3701	PLUG(2P)	KM200SA2
	CN3303	SPEAKER TERMINAL 6-P	XKE3008

Mark	No.	Description	Part No.

H REAR AMP ASSY

SEMICONDUCTORS

⚠	IC5021		NJM7812FA
⚠	IC5007		NJM7912FA
⚠	IC3401		STK402-230
	Q5021		2SB1237X
	Q3451,Q3452,Q3551,Q3816,Q3817		2SC2412K
	Q3702		2SD1858X
	Q3401,Q3402,Q3501		2SD2114K
	Q3813,Q3814		DTA123JS
	Q3704,Q3815		DTA143EK
	Q3706		DTC123TK
	Q3811,Q3812		DTC143EK
	D5013-D5018		11ES2
	D3451,D3453,D3454,D3461,D3551		1SS133
	D3553,D3703,D3704,D5022		1SS133
	D3452		1SS355
	D5021		MTZJ15B
	D62		MTZJ5.1B

COILS

	L3461,L3462,L3561	ATH-133

RELAYS

	RY3461,RY3462	XSR3002

CAPACITORS

	C3409,C3410,C3509	CCSRCH330J50
	C62	CEAL470M16
	C3811	CEAT470M16
	C3407,C3408,C3507,C5012,C5022	CEJQ100M35
	C3812	CEJQ101M10
	C3423,C3424	CEJQ101M35
	C3813	CEJQ101M6R3
	C3431	CEJQ220M25
	C3401,C3402,C3501	CEJQ2R2M50
	C5023	CEJQ470M16
	C3425,C3461-C3464,C3561,C3563	CKSRYB104K25
	C3405,C3406,C3505	CKSRYB221K50
	C3403,C3404,C3503	CKSRYB471K50
	C5011,C5021	CKSRYF104Z50

RESISTORS

	R62	RD1/2PM221J
	R3463,R3464,R3563	RD1/2PM4R7J
	R3461,R3462,R3561	RD1/2PMF100J
	R3421,R3422	RD1/4MUF101J
	R3707	RD1/4PU120J
	R3451,R3452,R3551	RS2LMFR22J
	Other Resistors	RS1/16S□□□J

OTHERS

	CN3502	13P CONNECTOR PLUG	AKM7067
	CN3501	13P SOCKET	AKP7070
		PCB BINDER	VEF1040
	CN3401	SPEAKER TERMINAL 6P	XKE3009

Mark	No.	Description	Part No.
		MAIN ASSY	
		SEMICONDUCTORS	
⚠	IC5001	PROTECTOR (750mA)	AEK7007
⚠	IC5005	PROTECTOR (3.5A)	AEK7017
⚠	IC15,IC5004	PROTECTOR (5A)	AEK7019
⚠	IC13,IC14	PROTECTOR (10A)	AEK7022
⚠	IC5071		BA05T
⚠	IC8521		BA25BC0FP
	IC3151,IC3152,IC3161,IC3171		BA4558F
	IC3902		BA4560F
	IC8901		BA6195FP
	IC3001		M62446FP
⚠	IC5081		NJM78M05FA
	IC5501		PDC076A
	IC8531		TC74HCT7007AF
	IC8541		TC74VHC125F
	Q3906		2SA1037K
⚠	Q5072		2SA965
	Q5043,Q5071		2SB1237X
⚠	Q5031,Q5041		2SB1375
	Q5032,Q5042,Q5572		2SC2412K
	Q5501,Q5721		2SD1858X
	Q3903,Q3904,Q3919,Q3920,Q5051		2SD2114K
	Q3905		DTA124EK
	Q5553,Q5554		DTA143EK
	Q3251,Q3252		DTC114TK
	Q8922		DTC114YK
	Q3253		DTC124EK
	Q5551,Q5552,Q5571		DTC143EK
⚠	D5010,D5011,D5074,D5075		11ES2
	D3901,D5042,D5072,D5078,D5578		1SS133
	D5741		1SS133
⚠	D5005,D5006		D3SBA20(B)
⚠	D11,D12		D5SBA20(B)
	D5721		MTZJ11C
	D5079		MTZJ33A
	D5043		MTZJ4.7A
	D3203,D3204,D5076		MTZJ6.8B
	D5071		MTZJ7.5C
	D5031		UDZS7.5B
		COIL	
	L5501		LAU220J
		CAPACITORS	
	C5526	(0.047F)	ACH1246
⚠	C21,C22	(3300µF/56V)	ACH7045
	C3006-C3008,C5504,C5513-C5516		CCSRCH101J50
	C5573,C8536,C8914		CCSRCH101J50
	C8910-C8913,C8916		CCSRCH221J50
	C9004		CCSRCH331J50
	C8907		CEAL101M10
	C33,C34		CEANP100M35
	C3190,C3903-C3908,C3917,C5043		CEAT100M50
	C5072,C5076,C5082,C5571,C5722		CEAT100M50
	C5741,C5742		CEAT100M50
	C5032,C5042,C5045,C5073,C5523		CEAT101M10
	C8522,C8909		CEAT101M10
	C5010		CEAT101M50
	C5574		CEAT1R0M50
	C5051,C5074,C5075		CEAT220M50
	C3001,C3002		CEAT221M16
	C3157,C3158,C3167,C3168,C3179		CEAT2R2M50
	C5033,C5703		CEAT470M16
⚠	C31,C32		CEAT472M35
⚠	C5006,C5008		CEAT682M16
	C3005		CEJQ100M16
	C3181,C3183		CFTLA154J50
	C3155,C3156		CFTLA393J50
	C3913,C3914,C5527		CKSRYB102K50
	C3010,C3165,C3166,C3175		CKSRYB103K50
	C3191-C3196,C5510-C5512		CKSRYB103K50
	C5517,C5518,C5524,C5572,C8902		CKSRYB103K50
	C8908,C9003		CKSRYB103K50
	C3141-C3144,C5031,C5041,C5071		CKSRYB104K25
	C5081,C5502,C5503,C5525,C8521		CKSRYB104K25
	C8523,C8533,C8543,C8905,C8906		CKSRYB104K25
	C8915		CKSRYB104K25
	C3911,C3912		CKSRYB221K50
	C3151,C3152		CKSRYB222K50
	C3153,C3154,C3163,C3164,C3171		CKSRYB472K50
	C8532,C8542		CKSRYB473K25
		RESISTORS	
	R3219,R3220		RD1/2PM151J
	R5077,R5078,R8533,R8534		RD1/4PU101J
	R5075		RD1/4PU102J
	R5580		RD1/4PU103J
	R3909,R3910		RD1/4PU470J
	R5076		RD1/4PU472J
	R5568		RD1/4PU473J
	R5031		RD1/4PU821J
	R8930		RS1/16S1002F
	R8909		RS1/16S1502F
	R8914,R8928		RS1/16S2402F
	R8927		RS1/16S2701F
	R8929		RS1/16S5601F
	Other Resistors		RS1/16S□□□J
		OTHERS	
	CN5501	5P FFC CONNECTOR	52045-0545
	CN5701	13P FFC CONNECTOR	52045-1345
	CN5509	19P FFC CONNECTOR	52045-1945
	CN5511	27P FFC CONNECTOR	52045-2745
	CN8503	4P JUMPER CONNECTOR	52147-0410
	CN5352	11P PLUG	AKP7058
	CN3052	13P PLUG	AKP7059
	CN3051,CN5503	15P PLUG	AKP7060
	CN5209	19P PLUG	AKP7062
	CN3001	21P PLUG	AKP7063
	CN3053	09P CONNECTOR SOCKET	AKP7151
	CN3054	13P CONNECTOR SOCKET	AKP7155
		HEAT SINK	ANH-575
	CN5011	5P-VH CONNECTOR	B5P-VH
	CN5012	7P-VH CONNECTOR	B7P-VH
		SCREW	BBZ30P080FZK
	CN5507,CN8902	7P FFC CONNECTOR	VKN1211
	CN8501,CN8502	B TO B CONNECTOR 30P	VKN1627
	CN8903	8P FFC CONNECTOR	VKN1707
	KN5001	EARTH METAL FITTING	VNF1084
	X5501	CERAMIC RESONATOR (10MHz)	ASS7034

Mark	No.	Description	Part No.

J TUNER MODULE

SEMICONDUCTORS

	IC201	BA1451F
	IC202	LC72131MD
	Q201,Q204,Q205	2SC2412K
	Q202	DTA124ES
	Q203	DTC124EK
	D201	1SS133
	D202	MTZJ5.1C

COILS AND FILTERS

	L201	ATE7003
	F202	ATF-107
	F201	ATF-119
	F203	ATF1155

CAPACITORS

	C206	CCSRCH100D50
	C212,C213,C226,C233-C235	CCSRCH101J50
	C240	CCSRCH101J50
	C231,C232	CCSRCH150J50
	C223	CEAT100M50
	C229	CEAT101M10
	C224	CEAT1R0M50
	C227	CEAT220M25
	C241	CEAT2R2M50
	C243	CEAT330M16
	C228	CEAT3R3M50
	C237	CEAT470M10
	C211	CEJA1R0M50
	C210	CEJA470M16
	C204,C238,C602	CKSRYB102K50
	C101,C102,C208,C220,C239	CKSRYB103K50
	C242,C601	CKSRYB103K50
	C216,C217	CKSRYB123K50
	C225	CKSRYB153K50
	C201,C205,C209,C214,C230	CKSRYB223K50
	C236,C603	CKSRYB223K50
	C221	CKSRYB224K10
	C202,C222	CKSRYB473K16
	C215	CKSRYB681K50

RESISTORS

	R211	RD1/4PU221J
	R221	RD1/4PU222J
	R233	RD1/4PU391J
	R243	RS1/10S0R0J
	R103	RS1/10S331J
	R104	RS1/10S391J
	Other Resistors	RS1/16S□□□J

OTHERS

	CN201	13P CONNECTOR	52044-1345
	BN201	TERMINAL 4P	AKA7003
		SHIELD CASE T	ANK7072
		SHIELD CASE B	ANK7073
	X201	CRYSTAL RESONATOR (7.2000MHz)	ASS1093
		FM FRONT END	AXF7003
		AM RF TUNING BLOCK	AXX7071

Mark	No.	Description	Part No.

K INPUT ASSY

SEMICONDUCTORS

	IC5352	BA4558F-HT
	IC5231	BU4052BCF
	Q5271,Q5272	2SD2114K
	Q5273	DTA124EK
	Q5231,Q5232	DTC124EK
	D5253	1SS181
	D5252	1SS355

COILS

	L5201,L5202,L5205,L5207,L5208	VTL1112
	L5211,L5271,L5272,L5280	VTL1112

CAPACITORS

	C5201-C5204,C5207-C5210	CCSRCH101J50
	C5271,C5272	CCSRCH101J50
	C5239,C5240	CEAT100M50
	C5212-C5215,C5231,C5232	CEAT470M16
	C5229,C5230,C5233,C5234	CKSRYB103K50
	C5244-C5246	CKSRYB103K50

RESISTORS

	Other Resistors	RS1/16S□□□J

OTHERS

	JA5201	PIN JACK (6P)	AKB7113
	CN5208	19P SOCKET	AKP7073
	CN5207	KR CONNECTOR	S3B-PH-K

L VIDEO ASSY

SEMICONDUCTORS

	IC5351	LA7138M
	IC5104	TC7WU04F
	Q5161,Q5171,Q5181,Q5351	2SA1037K

COILS AND FILTERS

	L5161,L5171,L5181	LCTB120K1608
	F5101	VTF1096
	L5371,L5378,L5379	VTL1087

CAPACITORS

	C5106	CCSRCH100D50
	C5163,C5173,C5183	CCSRCH180J50
	C5371,C5379	CCSRCH331J50
	C5161,C5162,C5171,C5172	CCSRCH6R0D50
	C5181,C5182	CCSRCH6R0D50
	C5354,C5356,C5360	CEAT101M16
	C5105	CEAT470M16
	C5372,C5380	CEAT471M6R3
	C5107,C5392	CKSRYB102K50
	C5101,C5103,C5104,C5164,C5174	CKSRYB104K25
	C5184,C5351-C5353,C5357,C5361	CKSRYB104K25
	C5381	CKSRYB104K25

RESISTORS

	Other Resistors	RS1/16S□□□J

Mark	No.	Description	Part No.
OTHERS			
	JA5103	PIN JACK (1P)	AKB7111
	CN5352	4P MINI DIN SOCKET	AKP7008
	CN5351	11P SOCKET	AKP7069
	JA5351	PIN JACK (1P)	VKB1063

M DSP ASSY

SEMICONDUCTORS

	IC3751	AK4527BVQ
	IC8701,IC8703,IC8705	BA4558F-HT
	IC8801	LC89056W-E
	IC3851	W24257AJ-12
	IC3801	YSS912C
	Q8709-Q8714	2SD2114K
	Q8715,Q8716,Q8718	DTA124EK
	Q8717	DTC124EK
	D8701,D8702	1SS181
	D8703	1SS184

FILTERS

	F3731-F3736,F3801,F3802,F3851	DTF1064
	F8801,F8802	DTF1064
	F3751,F3752	DTF1067

CAPACITORS

	C3807,C3810,C3814,C3817,C3821	CCSRCH101J50
	C3825,C3828,C3854,C8825	CCSRCH101J50
	C8733	CCSRCH121J50
	C3803,C3804,C8816,C8817	CCSRCH200J50
	C3820	CCSRCH221J50
	C8709,C8710	CCSRCH470J50
	C3811	CCSRCH471J50
	C8721,C8722	CCSRCH820J50
	C8711,C8712,C8723,C8724	CEAT100M50
	C8735,C8736,C8741-C8746	CEAT100M50
	C8761-C8766	CEAT100M50
	C3709,C3710,C3756,C3759,C3801	CEAT101M10
	C3851,C8801	CEAT101M10
	C3705,C3706,C3802	CEAT220M25
	C3856	CEAT221M6R3
	C8812,C8915,C8917	CEAT470M16
	C3752	CEJQ470M10
	C3783-C3785	CKSRYB102K50
	C3732,C3734,C3765,C3786	CKSRYB103K50
	C8701,C8702,C8751,C8753	CKSRYB103K50
	C8755-C8758,C8808,C8811	CKSRYB103K50
	C3711,C3712,C3754,C3755,C3758	CKSRYB104K25
	C3833,C3834,C3855,C8802,C8803	CKSRYB104K25
	C8805,C8806,C8809,C8810,C8814	CKSRYB104K25
	C8818,C8820,C8821,C8916,C8918	CKSRYB104K25
	C8715,C8716,C8727	CKSRYB122K50
	C8713,C8714,C8725	CKSRYB152K50
	C3707,C3708	CKSRYB222K50
	C8728	CKSRYB224K10
	C8703,C8704,C8734	CKSRYB472K50
	C3805,C3809,C3813,C3816,C3819	CKSRYB473K25
	C3822,C3824,C3827,C3830,C3831	CKSRYB473K25
	C3852	CKSRYB473K25

Mark	No.	Description	Part No.
RESISTORS			
	R3751,R3757,R3809,R3813,R3822		RAB4C101J
	R3827,R3830,R8801,R8825		RAB4C101J
	R3817		RAB4C102J
	Other Resistors		RS1/16S□□□J
OTHERS			
	CN3701	15P SOCKET	AKP7071
	CN3702	21P SOCKET	AKP7074
	CN3703	CONNECTOR POST	S3B-PH-K
	X3801,X8801	CRYSTAL RESONATOR (12.288MHz)	VSS1140

N DISPLAY ASSY

SEMICONDUCTORS

	IC5801	HEF4794BT
	Q5803,Q5804	2SC2412K
	Q5802	DTA143EK
	D5801-D5808	MPG5064X
	D5809	SLR-343VC(NPQ)

CAPACITORS

	C5825-C5827	CCSRCH101J50
	C5902	CEAL470M16
	C5802	CKSRYB104K25
	C5901	CKSRYB473K25

RESISTORS

	Other Resistors	RS1/16S□□□J

OTHERS

	X5901	REMOTE RECEIVER UNIT	GP1U27X
	CN5802	27P FFC CONNECTOR	HLEM27R-1
		FL HOLDER(FE)	VNF1085
	V5801	FL TUBE	XAV3011

O MIC HP ASSY

CAPACITORS

	C5822	CKSRYB104K25
	C5819,C5821	CKSRYB223K50

RESISTORS

	Other Resistors	RS1/16S□□□J

OTHERS

	CN5807	5P FFC CONNECTOR	52044-0545
	JA5802	MINI JACK	AKN7003
	KN5801	EARTH METAL FITTING	VNF1084

P KEYB ASSY

SWITCHES

	S5802,S5812-S5818	ASG7013

RESISTORS

	Other Resistors	RS1/16S□□□J

OTHERS

	3P CABLE HOLDER	51048-0300

Mark	No.	Description	Part No.
Q		**STBY SWITCH ASSY**	
		SWITCH	
	S5811		ASG7013
		RESISTORS	
		Other Resistors	RS1/16S□□□J
		OTHERS	
		3P CABLE HOLDER	51048-0300
	J5811	JUMPER WIRE 03P	D20PYY0310E
R		**JOG ASSY**	
		SWITCH	
	S5801		XSX3003
		CAPACITOR	
	C5801		CKSRYB102K50
		RESISTORS	
		Other Resistors	RS1/16S□□□J
		OTHERS	
		3P CABLE HOLDER	51048-0300
		5P CABLE HOLDER	51048-0500
	CN5806	3P JUMPER CONNECTOR	52147-0310
	J5808	JUMPER WIRE 3P	D20PYY0310E
	J5804	JUMPER WIRE 5P	D20PYY0515E
S		**DISC KEY ASSY**	
		SWITCHES	
	S5803-S5810		ASG7013
		RESISTORS	
		Other Resistors	RS1/16S□□□J
		OTHERS	
		3P CABLE HOLDER	51048-0300
	J5805	JUMPER WIRE 3P	D20PYY0310E
T		**PRIMARY ASSY**	
		SEMICONDUCTORS	
⚠	IC41		NJM78M56FA
	Q41		2SD1859X
	D42,D44,D45		1SS133
⚠	D41		DF06SA
		COIL AND TRANSFORMER	
⚠	L1		ATF7018
⚠	T2		ATT7049
		RELAY	
⚠	RY41		XSR3004

Mark	No.	Description	Part No.
		CAPACITORS	
⚠	C1,C3	(0.01µF)	ACE7027
⚠	C42		CEAT102M16
	C41		CEJQ100M35
	C44		CKSRYB104K25
		RESISTORS	
⚠	R1	(2.2MΩ, 1/2W)	RCN1080
	R43		RS1/16S102J
	Other Resistors		RD1/4PU□□□J
		OTHERS	
		4P CABLE HOLDER	51048-0400
	H1,H2	FUSE CLIP	AKR7001
⚠	CN1	2P-VH CONNECTOR	B2P3-VH
	J13	JUMPER WIRE 5P	D20PYY0420E
	KN2	EARTH METAL FITTING	VNF1084
⚠	AN1	AC INLET 1P	XKP3042

6. ADJUSTMENT

6.1 TUNER SECTION

■ AM Tuner Section

• There is no adjustment in the AM tuner.

■ FM Tuner Section

• Set the mode selector to FM BAND.
• Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dBμV)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point Vtm) gets within 0 ± 50mV.

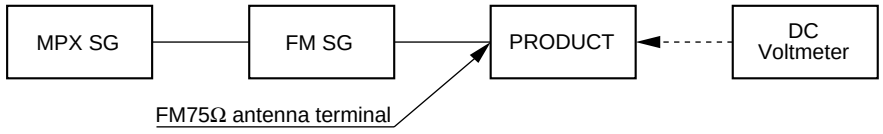


Fig.1 Adjustment Wiring Diagram

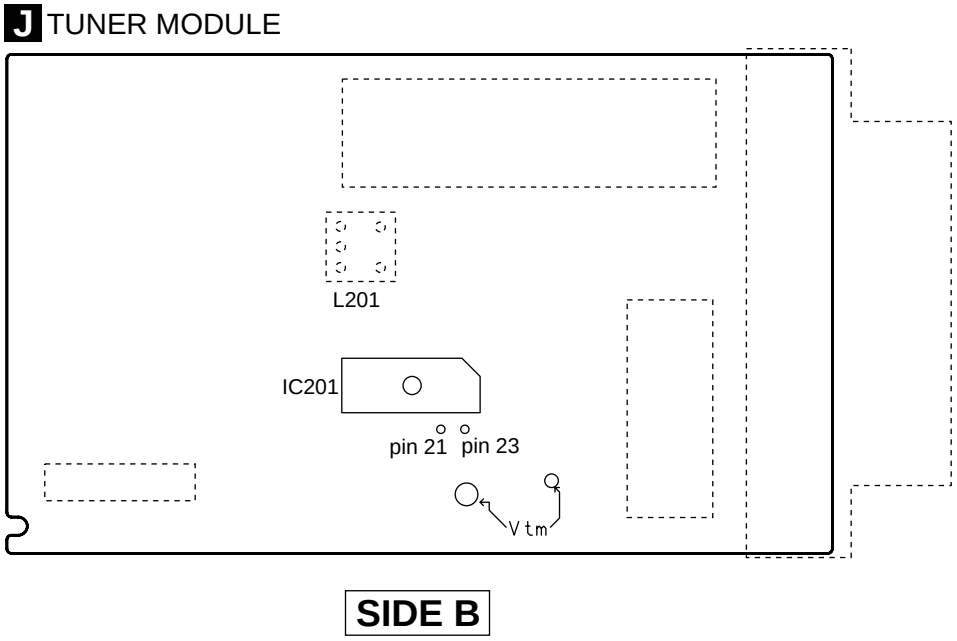


Fig.2 Adjustment Point

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 SELF-DIAGNOSTIC FUNCTION OF PICKUP DEFECTIVE

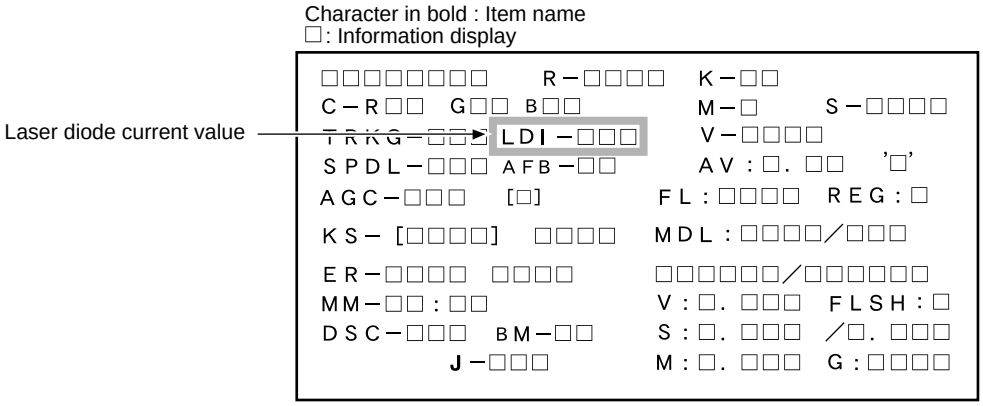
Symptom

- Indicates "No Disc" in FL display.
- Player does not playback, etc..

Procedure of Self-Diagnosis

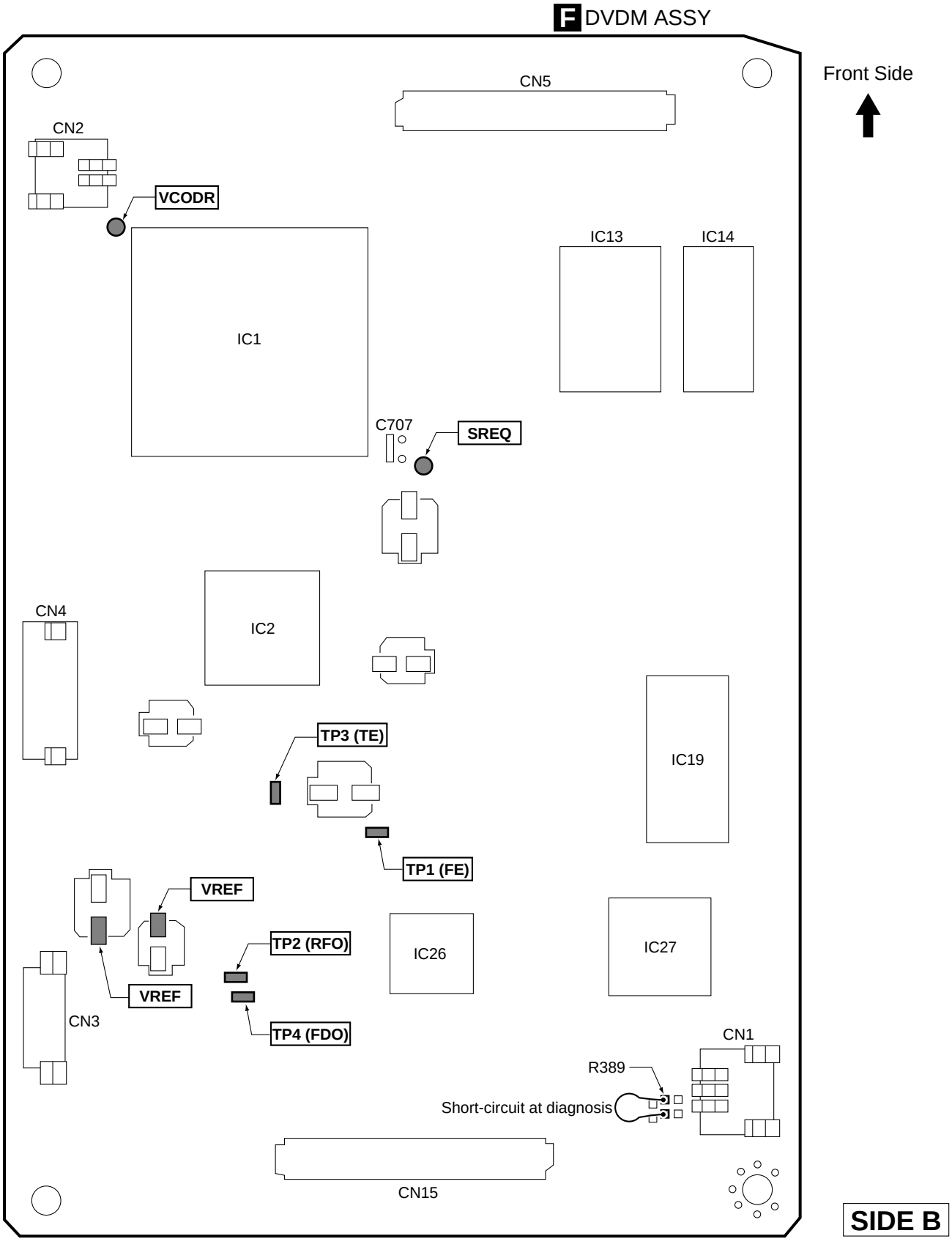
① Press the TEST → 1 buttons (of the test mode remote control unit : GGF1067) in the test mode screen, and turn on the laser diode (It light-up for nine seconds.).
② Confirm the indicated value of the laser diode current (LDI).
③ When indicated value is more than 110, pickup is defective. → Release the Traverse Mechanism Assy.

Note : When a DVD disc is played in the test mode, this function is effective.
This function is effective only for DVD pickup (650nm).


Character in bold : Item name
□: Information display
Laser diode current value
□□□□□□□□ R－□□□□ K－□□
C－R□□ G□□ B□□ M－□ S－□□□□
TRKG－□□□ LDI－□□□ V－□□□□
SPDL－□□□ AFB－□□ AV：□. □□ '□'
AGC－□□□ [□] FL：□□□□ REG：□
KS－[□□□□] □□□□ MDL：□□□□／□□□
ER－□□□□ □□□□ □□□□□□／□□□□□□
MM－□□：□□ V：□. □□□ FLSH：□
DSC－□□□ BM－□□ S：□. □□□ ／□. □□□
J－□□□ M：□. □□□ G：□□□□

Test Mode Screen Display

7.1.2 TEST POINTS LOCATION

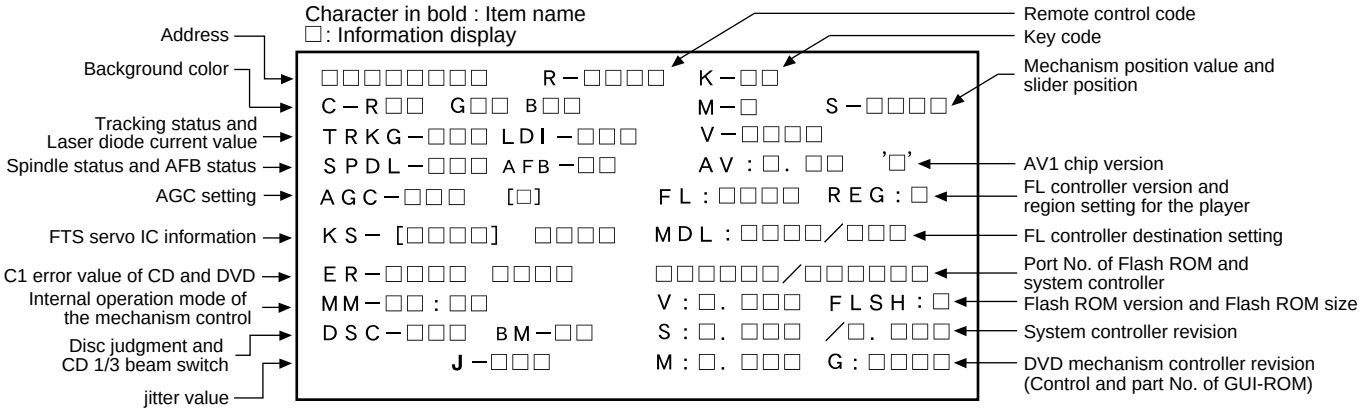


7.1.3 TEST MODE SCREEN DISPLAY

■ TEST MODE SCREEN DISPLAY

Consecutive double-OSD display is supported during test mode. The screen is composed 10 lines with a maximum of 32 characters per line. It can't be used with the debugging display mode together.

• Screen Composition


Character in bold : Item name
□: Information display
Address
Background color
Tracking status and Laser diode current value
Spindle status and AFB status
AGC setting
FTS servo IC information
C1 error value of CD and DVD
Internal operation mode of the mechanism control
Disc judgment and CD 1/3 beam switch
jitter value
□□□□□□□□ R－□□□□ K－□□
C－R□□ G□□ B□□ M－□ S－□□□□
TRKG－□□□ LDI－□□□ V－□□□□
SPDL－□□□ AFB－□□ AV：□. □□ '□'
AGC－□□□ [□] FL：□□□□ REG：□
KS－ [□□□□] □□□□ MDL：□□□□／□□□
ER－□□□□ □□□□ □□□□□□／□□□□□□
MM－□□：□□ V：□. □□□ FLSH：□
DSC－□□□ BM－□□ S：□. □□□ ／□. □□□
J－□□□ M：□. □□□ G：□□□□
Remote control code
Key code
Mechanism position value and slider position
AV1 chip version
FL controller version and region setting for the player
FL controller destination setting
Port No. of Flash ROM and system controller
Flash ROM version and Flash ROM size
System controller revision
DVD mechanism controller revision (Control and part No. of GUI-ROM)

First Screen Display

Caution :
The first screen and second screen switch by pressing [DISPLAY] key of the remote control unit.
It is only a version display part on the lower right of the screen those contents of display change.
ATB : ON/OFF information display and AGC manual setting display deleted with the second generation.
The displays of Tilt error value, Tilt servo status and pickup DVD/CLD display deleted with the third generation becomes LD part is deleted.

• Description of Each Item on the Display

(1) Address indication

The address being traced is displayed in number.
DVD : ID indication (hexadecimal number, 8 digits) [＊＊＊＊＊＊＊＊]
CD : A-TIME (min. sec.) [0 0 0 0 ＊＊＊＊]
(Note : For DVDs, decimal-number indication is possible.)

(2) Code indication of the remote control unit [R – ＊＊＊＊]

The code for the key pressed on the remote control unit, which is received by the FL controller, is displayed while the key is pressed. In the case of the double code, the second code will be displayed.

(3) Key code indication for the main unit [K – ＊＊]

The code for the key pressed on the main unit, which is received by the system controller, is displayed while the key is pressed.

(4) Background color indication [C – R＊＊ G＊＊ B＊＊]

(5) ① Tracking status [TRKG – ＊＊＊]

Tracking on [ON]
Tracking off [OFF]

② Laser diode current value [LDI – ＊＊＊]

(6) ① Spindle status [SPDL – ＊＊＊]

Spindle accelerator and brake, free-runnimg	[A/B]
FG servo	[FG]
Rough, velocity phase servo	[SRV]
Offset addition, rough, velocity phase servo	[O_S]

② AFB status [AFB – ＊＊]

ON	[ON]
OFF	[OFF]

(7) Mechanism position value [M – ＊]

Position code	[1] to [7]

(8) Slider position [S – ＊＊＊＊]

CD TOC area	[IN]
CD active area	[CD]

(9) AGC setting [AGC – ＊＊]

AGC on	[AGC-ON]
AGC off	[AGC-OFF]

(10) Output video system [V – ＊＊＊＊]

NTSC system [NTSC]
PAL system [PAL]
Auto-setting [AUTO]

(11) FTS servo IC information

DSP coefficient indication [KS – [＊＊＊＊] ＊＊＊＊]
Displays the address (four digits) of the specified coefficient and the setting value (four digits) with [TEST] and [9] keys.

(12) Error rate indication

① C1 error value of CD [ER – C1 ＊＊＊＊]
② C1 error value of DVD [ER – ＊＊＊＊ ＊＊＊＊]

(13) Internal operation mode of mechanism controller [MM – ＊＊ : ＊＊]

Internal mechanism mode (2 digits) and internal mechanism step (2 digits) of the mechanism controller

(14) ① Disc sensing [DSC – ＊＊＊]

The type of discs loaded is displayed.
[DVD], [CD], [VCD], [ ]

② **CD 1/3 beam switch [BM – ＊＊]**

(15) Jitter value [J – ＊＊]

CD is effective only in the jitter value.

(16) Version of the AV-1 chip [AV : ＊ . ＊＊' ＊']

(17) ① Version of the FL controller [FL : ＊＊＊＊]

② **Region setting of the player [REG : ＊]**
Setting value [1] to [6]

(18) Destination setting of the FL controller [MDL : ＊＊＊＊ / ＊＊＊]

For characters in front represent the type of model :
There characters that follow represent the destination code.
J : /J, K : /KU, /KC, /KU/KC, R : /RAM, /RL, /RD, /LB, WY : /WY

(19) The part number of the flash ROM and system controller [＊＊＊＊＊＊ / ＊＊＊＊＊＊＊]

① Part number of the flash ROM <Front>
(Example) VYW1536-A = W1536A
(Example) PD6256A9 = 6256A9
② Part number of the system controller <Rear>
(Example) PD3381T1 = 3381T1

(20) ① Version of the flash ROM [V : ＊ . ＊＊＊]

② **Flash ROM size [FLSH = ＊]**

(21) Revision of the system controller [S : ＊ . ＊＊＊ / ＊ . ＊＊]

① Revision number of the external ROM part (flash ROM) of the system controller <Front>
② Revision of the internal ROM part of the system controller <Rear>

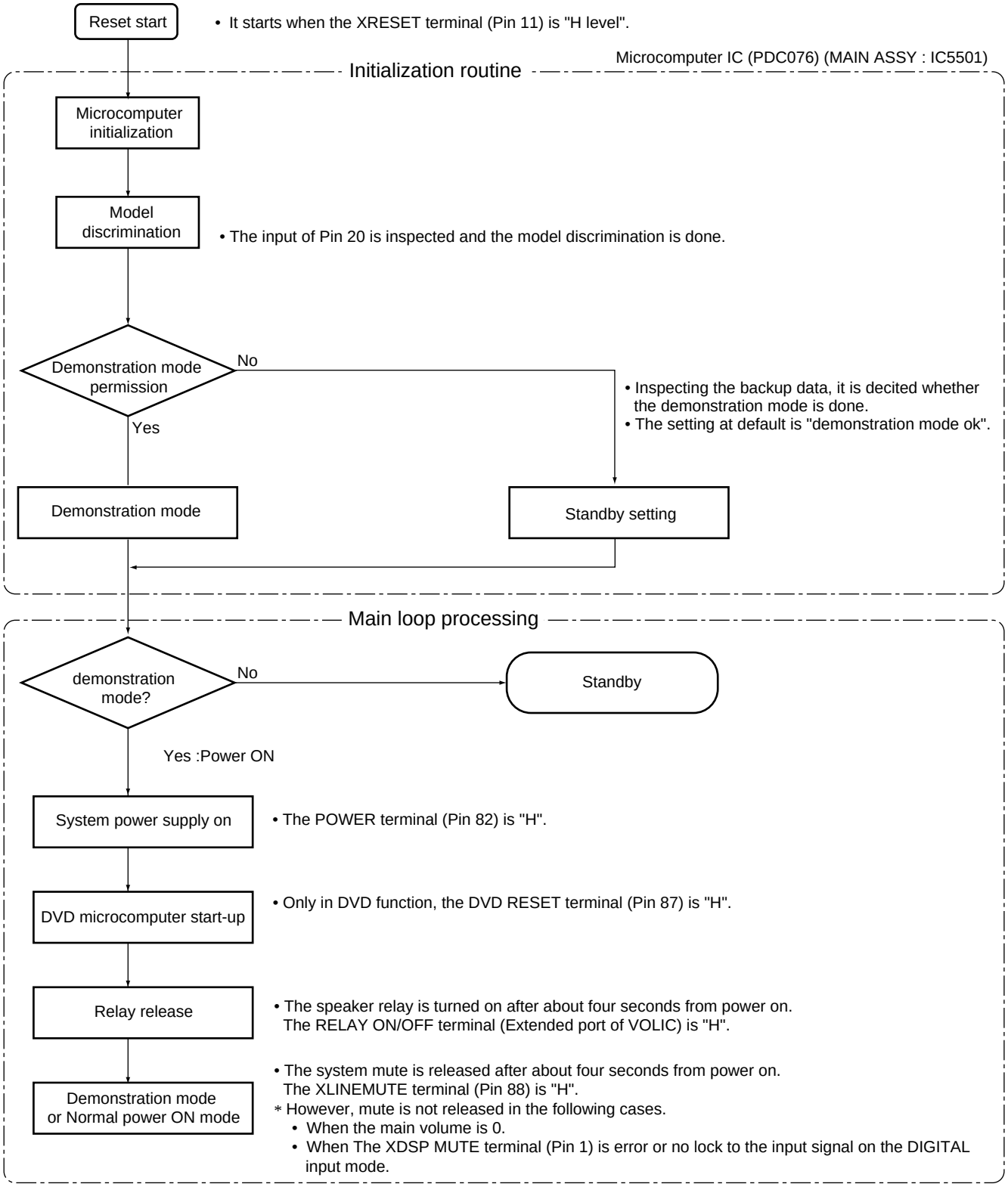
(22) Revision of the DVD mechanism controller [M : ＊ . ＊＊＊]

Revision number of the external ROM part (flash ROM) of the DVD mechanism controller

(23) Control and part numbers of the GUI-ROM [GUI : ＊＊＊＊]

No GUI model displays as "—— / ——".
OEM model displays the part number of GUI-ROM [GUI : ＊＊＊＊]

7.1.4 POWER ON SEQUENCE


Reset start
• It starts when the XRESET terminal (Pin 11) is "H level".
Microcomputer IC (PDC076) (MAIN ASSY : IC5501)
Initialization routine
Microcomputer initialization
Model discrimination
• The input of Pin 20 is inspected and the model discrimination is done.
Demonstration mode permission
No
Yes
• Inspecting the backup data, it is decited whether the demonstration mode is done.
• The setting at default is "demonstration mode ok".
Demonstration mode
Standby setting
Main loop processing
demonstration mode?
No
Standby
Yes :Power ON
System power supply on
• The POWER terminal (Pin 82) is "H".
DVD microcomputer start-up
• Only in DVD function, the DVD RESET terminal (Pin 87) is "H".
Relay release
• The speaker relay is turned on after about four seconds from power on.
The RELAY ON/OFF terminal (Extended port of VOLIC) is "H".
Demonstration mode or Normal power ON mode
• The system mute is released after about four seconds from power on.
The XLINEMUTE terminal (Pin 88) is "H".
∗ However, mute is not released in the following cases.
• When the main volume is 0.
• When The XDSP MUTE terminal (Pin 1) is error or no lock to the input signal on the DIGITAL input mode.

∗ If the pulse is not input to the AC terminal (Pin 26) about 60ms, during the memory backup mode, the microcomputer does not process all.

∗ It returns from the memory backup mode when there is a rising up input at the XRESET terminal (Pin 11).

7.1.5 TROUBLE SHOOTING

Microcomputer troubleshooting

Symptom of problem	Thought cause	Check method
• The power supply does not enter . • The standby LED lights even if the POWER key is pushed.	• The microcomputer is not reset.	• Whether terminal RESET (11Pin) is "H" is confirmed. The operation of the RESET circuit is confirmed if not becoming "H".
	• The AC pulse is not input.	• Whether the AC pulse is input to AC input terminal (26Pin) is confirmed. If the AC pulse is not input, the AC pulse generation circuit is confirmed.
	• The oscillation circuit of the microcomputer does not oscillate.	• The microcomputer or the oscillation circuit is broken. The microcomputer or the oscillation circuit is exchanged.
• It enters the state of POWER OFF soon even in case of the POWER ON.	• If the function is DVD, the 3.3DETECT input is 2.9V or less.	• If the voltage of the 3.3DETECT (13Pin) terminal of the microcomputer is 2.9V or less, the voltage is adjusted to 2.9V or more.
• DVD does not operate at all. • Time is not displayed in FL DISPLAY at the DVD function.	• It does not communicate with the DVD microcomputer.	• Whether terminal (27Pin, 83Pin, 98-100Pin) for the communication with the DVD microcomputer does the communication operation is confirmed. If the communication operation is not done, whether the B to B connector etc. are disconnected is confirmed. • Whether "H" is output to terminal DVDRESET (87Pin) is confirmed.
• The operation key is not accepted at all.	• It is recognized that other KEY has already been pushed.	• When KEY is not pushed, whether KEY input terminal (18Pin, 22Pin) is 5V is confirmed. If the KEY input terminal is not 5V, whether KEY SW on the line breaks is confirmed.

7.1.6 ERROR CODE

Error codes that are displayed on the FL display without using the remote control unit

FL Display	Possible causes	Operation of the unit
AV1 VER	AV-1 chip is not a match with the program of system controller	The sound may not produced with the specific audio.
CPU AERR	CPU address error (Hardware is unusual.)	No operation
DMA AERR	DMA address error (Hardware is unusual.)	No operation
FLASH ID	Difference in versions of the internal ROM of the system controller and of the flash ROM, or bus line failure or reverse installation	No operation
FLASH WRP	Write protect error of the flash ROM	No operation
FLASH SIG	Difference in part number of the flash ROM (When the ROM which couldn't be used was used.)	No operation
FLASH SUM	Check sum error of the flash ROM (It exceeds the regular size.) or reverse installation (Hardware is unusual.)	No operation
FLASH SIZE	Size error of the flash ROM (Use 4 or 8 M-bit.)	No operation
ILLGAL	The system controller fetched a code other than an operation code (Hardware is unusual.)	No operation
RESERVE	Undefined interrupt (Hardware is unusual.)	No operation
SLOT	Inappropriate slot command issued (Hardware is unusual.)	No operation
DVD ERR	This display appears when the terminal of microcomputer PIN.No13 becomes 2.9V or less and the set enters the standby state.	No operation
CT FAN ERR	display appears when the terminal of microcomputer PIN.No21 becomes more than 2.5V (fan abnormality), and the set enters the state of the standby.	No operation

Error codes that are displayed on the FL display by using the remote control unit (Mechanism controller error)
To display: ESC + DISPLAY + DISPLAY; Location of the display: At the two digits of center of the FL display
To display the error history: ESC + DISPLAY + One shot; Location of the display: TV screen

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
11	Search timeout	Search could not be complete within 7 seconds.	Search could not be complete within 7 seconds, and it could not enter the target area within 7 seconds by VCD scan.	CD : Stops, DVD : Continues operation
12	Search retry error	A search could not be completed after 3 retries, search backup was executed 4 times, or in a case of timeout (6 seconds) while the unit was tracing 11 tracks or more beyond the target while the search operation was converging.	Backup against slider skip was executed 4 times during a search, or slider skip twice resulted in starting from the read-in point.	CD : Stops, DVD : Continues operation
19	Tracing timeout while converging	Timeout (10.5 seconds) while tracing at the stage of convergence of a search.		Stop
1B	Index 0 search error		During Track (Index) Search, the search for the beginning of a program could not be completed within 3 seconds (20 seconds in the case of Index Search) after positioning based on the TOC data was completed.	Stop
22	Timeout of slider inner circumference	Inside switch could not ON within 3 seconds.		Stop
23	Timeout of slider outer circumference	Inside switch could not OFF within 2 seconds.		Stop
33	No FOK pulse during playback CLVA	When the focus was deviated continuously 20 times.		Adjusts focus at the innermost circumference and tries to return to its position where the error was generated (for 3 times),then opens. If the same error persists after one retry, the tray opens. (No FOK pulse)

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the
38	Disc-type-sensing error	If normal starting was impossible in the following three cases, disc-type sensing will be retried if other errors occure excepting C5 error. However, when the focus error "33" was occured continuously 3 times, it is finished as "38 error" at the moment: (1) startup with the first disc-type-sensing result, (2) forced startup with another disc by designating the disc type, (3) forced startup with the original disc by designating the disc type.		Open
39	SGC converge timeout	SGC could not converge during detects the peak		Open
41	Spindle timeout	The unit did not enter Stop mode within 10 seconds of issuance of a Stop command.		Stop
48	Spindle FG transition timeout	The spindle could not converge into within ± 12% of the target FG rotation speed within 10 seconds after spindle kick. The first time after startup (the first time after disc distinction), it doesn't become the number of the target rotation within five seconds. The first time after startup, detects the abnormal rotation number of high-speed continuously 3 loops. DVD: 5 to 9 mS , CD: 40 to 60 mS		Stops. (FG timeout)
49	Spindle PLL transition timeout	After the second times after startup, it doesn't become the number of the target rotation within five seconds. Detects the abnormal high-speed or low-speed rotations. DVD: 5 to 9 mS , CD: 40 to 60 mS		Stops. ("73" is displayed during starting process.)
4A	Spindle lock timeout	Spindle could not lock more than 1.5 seconds before start the AFB.		Stops. ("73" is displayed during starting process.)
51	Auto sequence timeout of peak	ABUSY did not return within 1 second after the DDTCT (peak detection) command was sent.		Stop
52	Auto sequence timeout of focus jump down	ABUSY did not return within 30 mS after the FJMPD (Focus jump 1 to 0) command was sent.		Stop
53	Auto sequence timeout of focus	ABUSY did not return within 30 mS after the FJMPU (Focus jump 0 to 1) command was sent.		Stop
54	Auto sequence timeout of play AGC	ABUSY did not return within 50 mS after the GSUMON (play-AGC-measuring) command was sent.		Stop
55	Auto sequence timeout of disc-type-sensing	ABUSY did not return within 2 seconds after the DJSRT (disc-sensing) command was sent.		Stop
56	Auto sequence timeout of ATB2	ABUSY did not return within 1 second after the TBLOFS (Internal ATB after the completion of external ATB) command was sent.		Stop
57	Auto sequence timeout of tracking servo ON	ABUSY did not return within 500 mS after the TSON (tracking servo ON) command was sent.		Stop
58	Auto sequence timeout of ATB1	ABUSY did not return within 200 mS after the TBL (external ATB) command was sent.		Stop
59	Auto sequence timeout of focus gain adjustment	ABUSY did not return within 2 seconds after the FGN (focus gain adjustment) command was sent.		Stop
5A	Auto sequence timeout of tracking gain adjustment	ABUSY did not return within 2 seconds after TGN (tracking gain adjustment) command was sent.		Stop
5B	Auto sequence timeout of offset adjustment	ABUSY did not return within 1 second after the CMDAVE (offset adjustment) command was sent.		Stop
5C	Auto sequence timeout of modulation factor measurement	ABUSY did not return within 200 mS after the ADJMIR (modulation factor measurement) command was sent.		Stop
5D	Auto sequence timeout of auto focus bias	ABUSY did not return within 2 seconds after the AFB (auto focus bias) command was sent.		Stop
5F	Auto sequence already busy	A command could not be sent because ABUSY was low. ABUSY did not return within 200 mS after TLV command was sent.		Stop
62	Pause retry error	Pause mode could not be restored within three retries after it had been released.		Continues operation

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
71	ID can not read during tracing	An ID could not be read for 1 second or more.		Stop
72	Subcode check failure during playback		No frame could be read for 3 seconds or more.	Stop
73	ID can not read at the startup	An ID could not be read within 1 second after the AFB adjustment had been finished.		Opens (ID readout failure)
74	Subcode check failure during startup		No subcode could be read within 3 seconds after AFB adjustment had been finished.	Opens (Subcode readout failure).
81	Timeout for reading TOC of the mechanism controller		TOC readout took 30 seconds or more.	Stop
82	Timeout for reading TOC of the system controller		Reading TOC of the system controller took 30 seconds or more.	Stop
A1	Communication timeout of DSP command	A command could not be issued to DSP because Command Busy (XCBUSY) was in force (XCBUSY = L) for a specified time (about 200 mS).		No operation
A2	Communication timeout for reading DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 200 mS) before and after a coefficient read command was issued to DSP, or the address echo-back after command issuance did not match the setup address.		No operation
A3	Communication timeout for writing DSP coefficient	Command Busy (XCBUSY) was in force for a specified time (about 1024 mS) before and after the coefficient write command was issued to DSP.		No operation
A4	Communication timeout for continuously writing DSP coefficient	Command Busy (XCBUSY) was in force for 200 mS during continuous coefficient writing, or before and after a continuous write command was issued to DSP.		No operation
B1	Timeout error for backup	In the tracing state during the backup sequence, codes could not be read for 1 second or more. In the backup sequence, tracking ON sequence of the servo DSP could not be completed even if more than 500 mS after the tracking ON command was issued.		Stops
B2	Retry error for backup	Tracing impossible after retring the tracking ON for 3 times in the backup sequence.		Stops
B3	Retry error for trace	During tracing, runaway was detected after three iterations of backup operations for detecting runaway.		Stops
C3	Detection of tracking overcurrent	During playback, the overcurrent detection port was at L for 300 ms or more continuously.		Stops (the mechanical controller operates independently).
(C5)	Short-circuit test corresponding error	While the power was on, the overcurrent detection port was at L for 40 ms or more continuously.		Turns off the power instantly (No indication on the FL display and no writing to flash memory)
E3	Violation against digital copy guard			Stops
F5	Tray being pushed	The tray switch that had been Open mode was forcibly changed to a mode other than Open by an external force.		Closes
F8	Loading timeout	Loading, unloading or clamping could not be completed within a specified time (about 5 seconds).		Reverses the loading direction. It timeout is repeated upon retry, the unit stops.
FC	Focus	The following error occured eight times. (1) Focus ON sequence could not be completed even if more than two seconds after the focus ON command (to the servo DSP) was sent. (2) Focus IN sequence was finished, actually focus IN was not completed.		Stops wherever possible then opens (stops in the case of side B).

Error codes that are displayed on the FL display by using the remote control unit (Device error)
To display : ESC + DISPLAY + DISPLAY ; Location of the display : At the two digits of left of the FL display

FL	Description of Error	Causes if with a DVD	Causes if with a CD	Operation of the Unit
bit3=1 08 etc.	AV1 access error (read, write NG)			No operation or it becomes debugging indication if the power is able to ON.
bit2=1 04 etc.	MY CHIP access error			
bit1=1 01 etc.	SRAM access error			

7.1.7 DISASSEMBLY

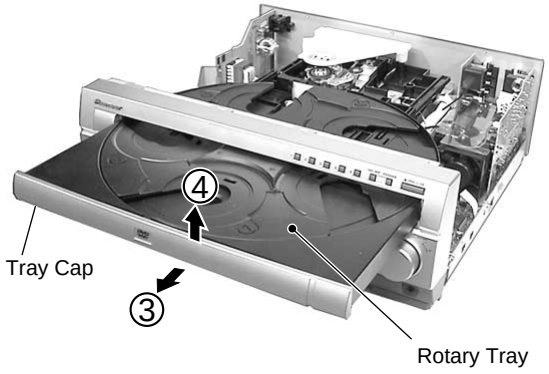
DIAGNOSIS OF PCBs

Note

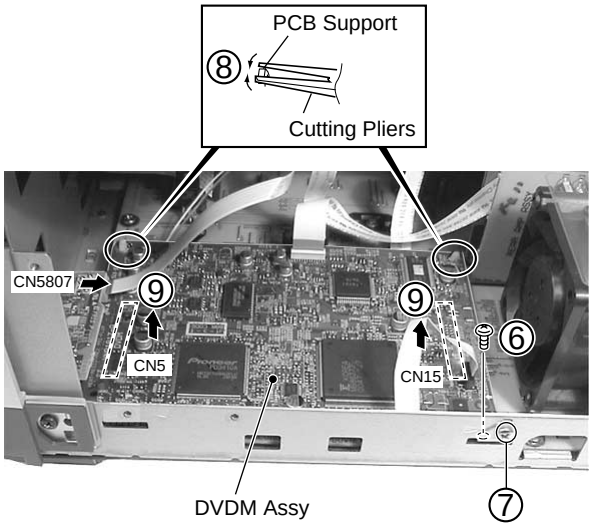
When diagnosing the unit, be sure to use two connection cables for service. (Part No : GGD1228)

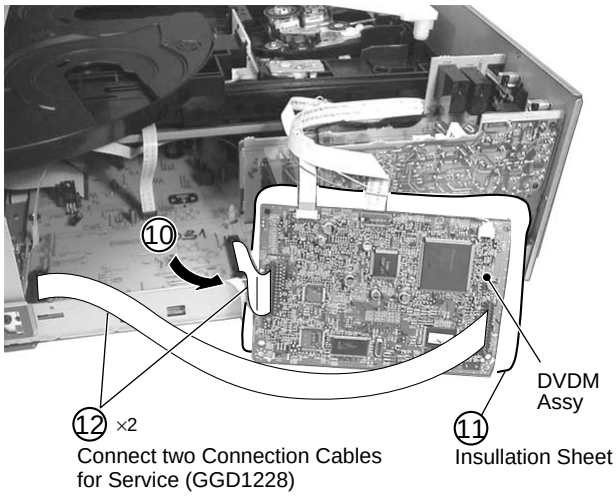
DVDM Assy

① Remove the Bonnet (Screws × 7)
② Power ON
③ Tray Open (⏏ OPEN/CLOSE)
④ Remove the Tray Cap

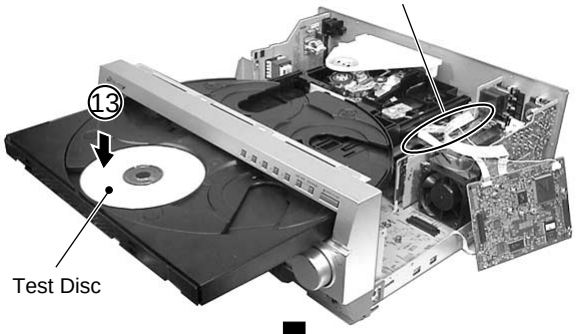


⑤ Power OFF (Pull out the Power Cord from the outlet.)
⑥ Remove one Screw
⑦ Remove one DV Brackets (one screw)
⑧ Unhook two PCB Supports
(Remove FFC Cable (CN5807))
⑨ Remove the DVDM Assy (Connectors × 2)

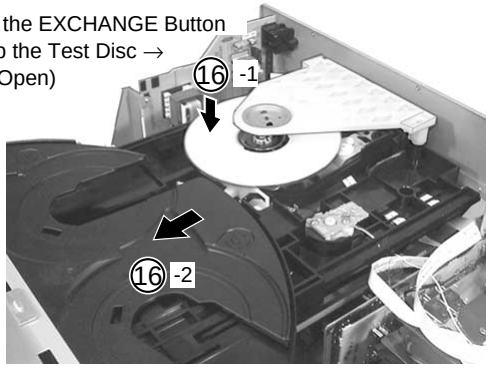




Attention: Be carefull not to put the flexible cables when closing the tray



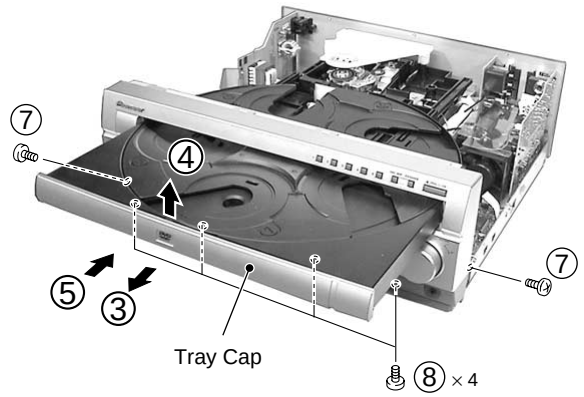
⑭ Put the Power Cord in the outlet
⑮ Power On → Tray close (Automatically)
⑯ Press the EXCHANGE Button
(clamp the Test Disc →
Tray Open)

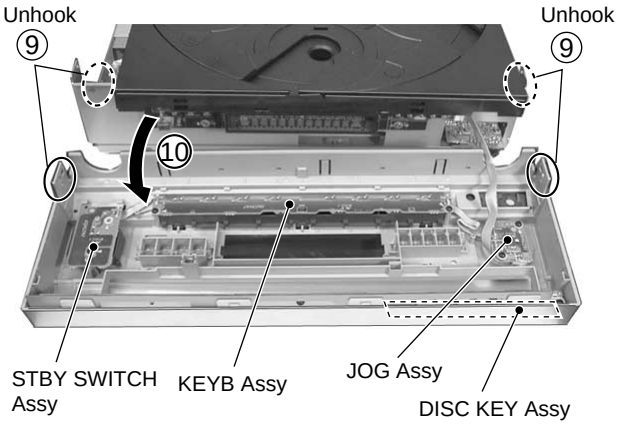


Diagnosis

FRONT PANEL SECTION

① Remove the Bonnet (Screws × 7)
② Power ON
③ Tray Open (▲ OPEN/CLOSE)
④ Remove the Tray Cap
⑤ Close the tray
⑥ Power OFF (Pull out the Power Cord from the outlet.)



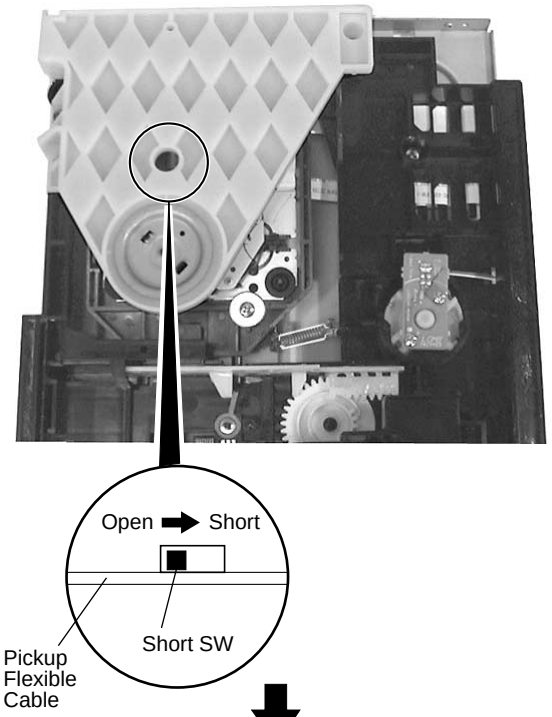


⑪ Put the Power Cord in the outlet
⑫ Power ON

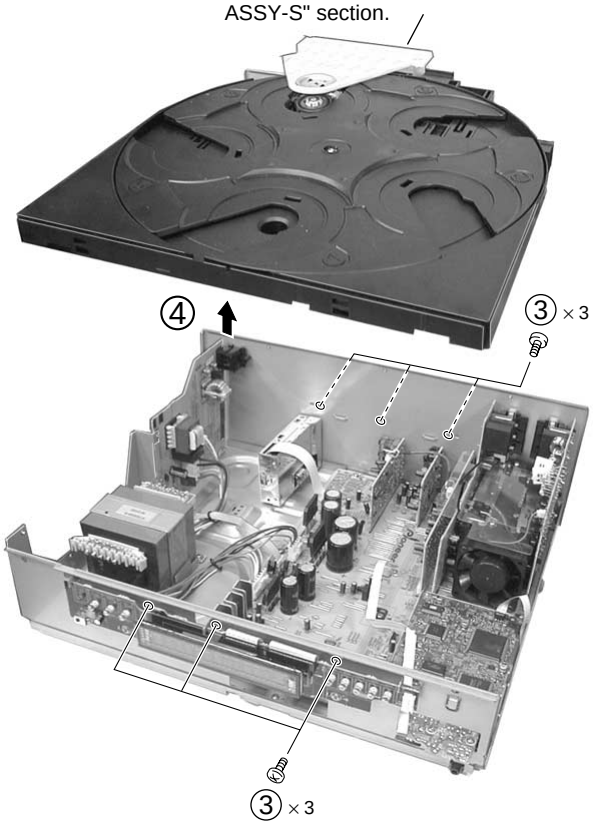
Diagnosis

TABLE MECHANISM SECTION

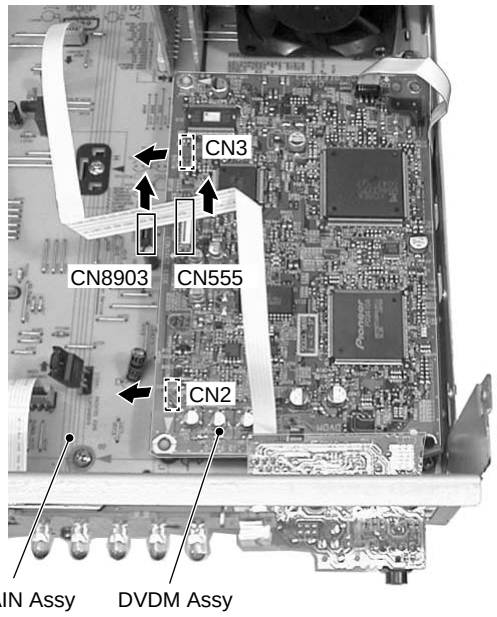
① Turn the Pickup Short SW to Short side.



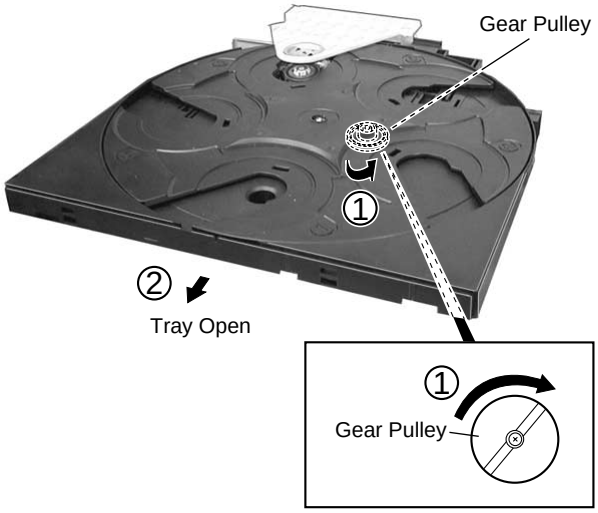
② Remove the Front Panel section
Refer to the " TRAVERSE MECHANISM ASSY-S" section.



⑤ Remove four connectors.

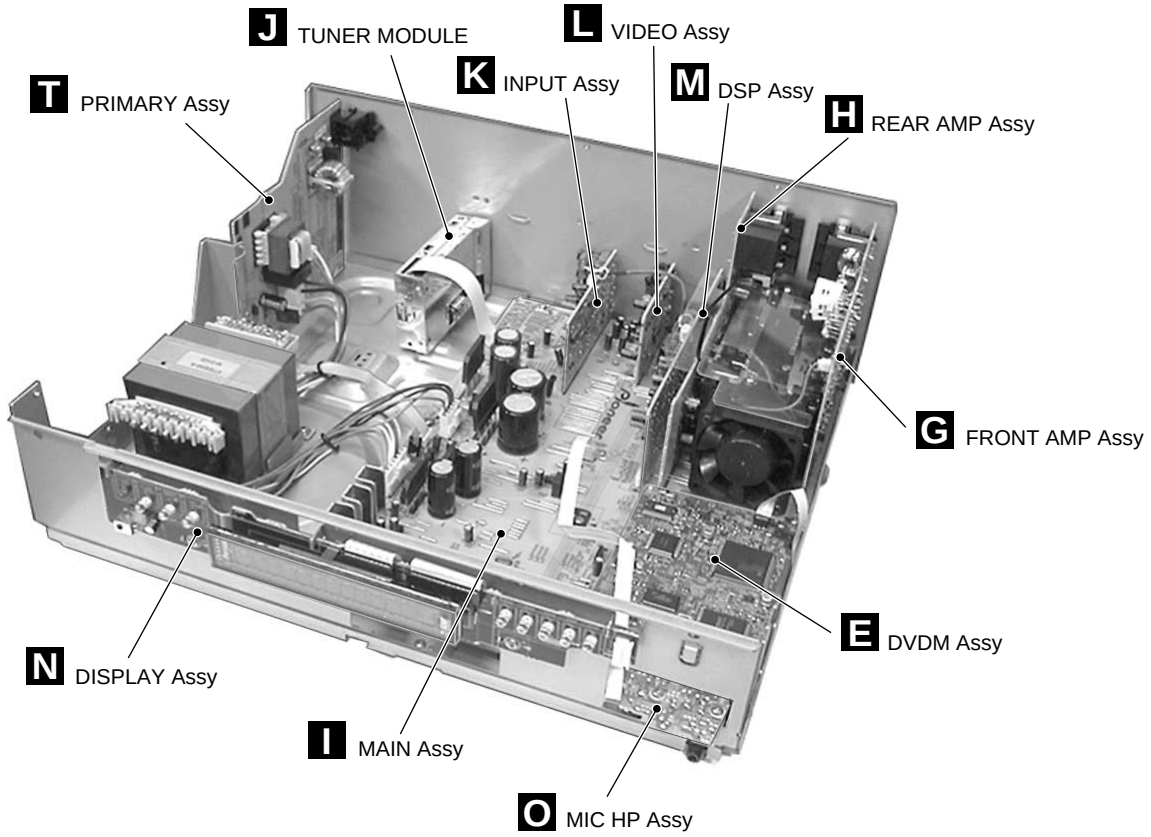


● **How to Open the Tray by Manual Operating**



③ If the tray moved toward the front about 2 or 3 cm, pull out the tray by hands.

■ PCB LOCATION

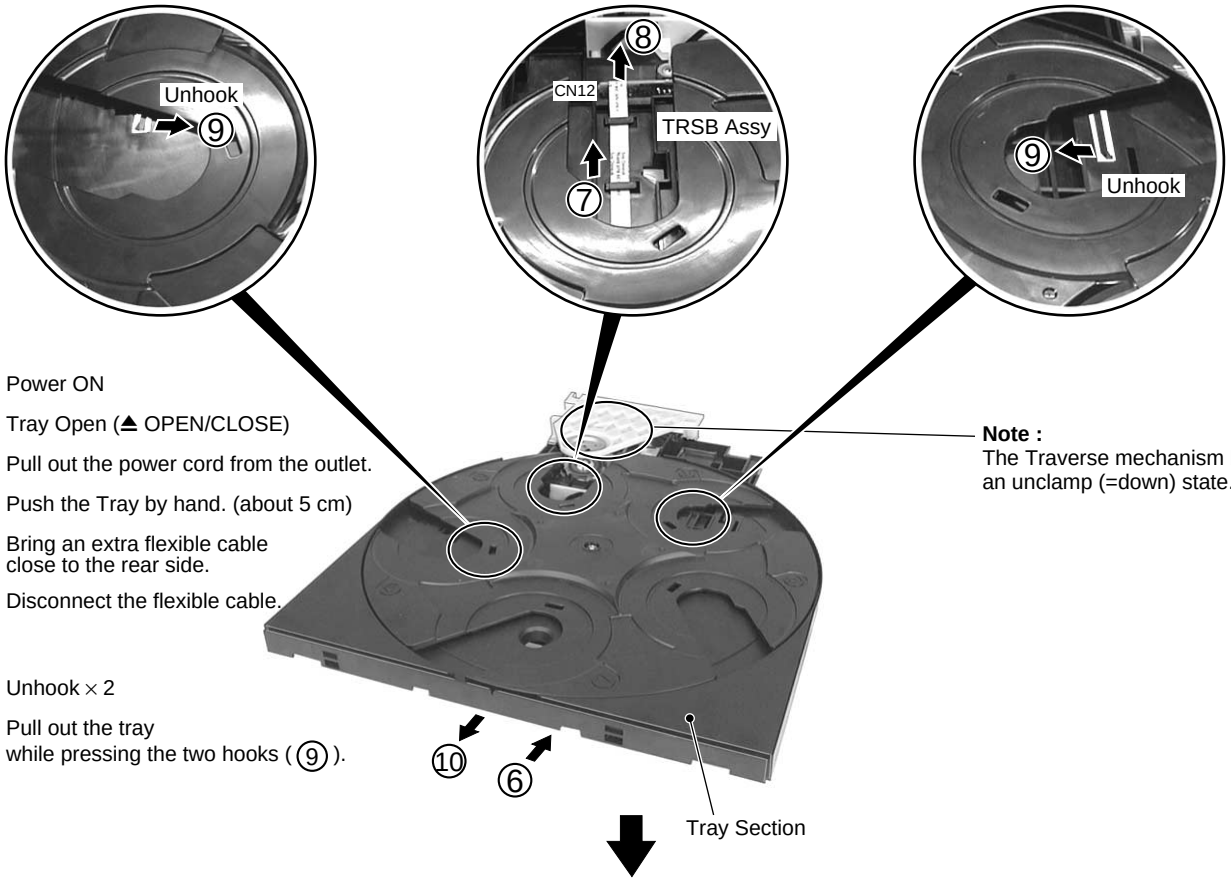


■ TRAVERSE MECHANISM ASSY-S

● Disassembly

① Remove the Bonnet (Screws × 7)

② Remove the Tray Cap
Remove the Front Panel Section (Refer to " ■ FRONT PANEL SECTION")



③ Power ON

④ Tray Open (⏏ OPEN/CLOSE)

⑤ Pull out the power cord from the outlet.

⑥ Push the Tray by hand. (about 5 cm)

⑦ Bring an extra flexible cable close to the rear side.

⑧ Disconnect the flexible cable.

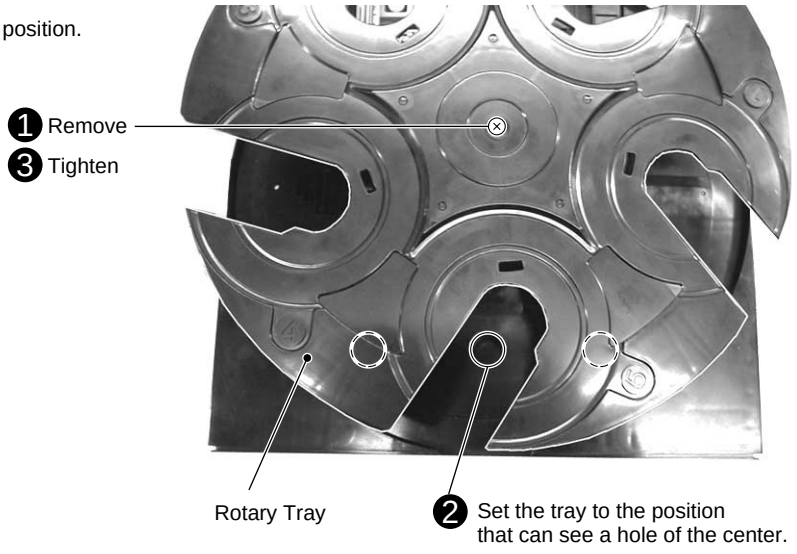
⑨ Unhook × 2

⑩ Pull out the tray while pressing the two hooks (⑨).

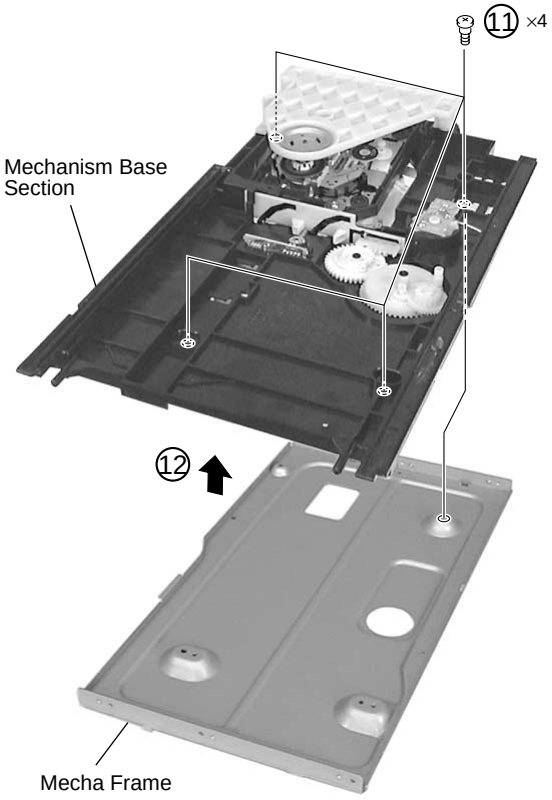
Note :
The Traverse mechanism being an unclamp (=down) state.

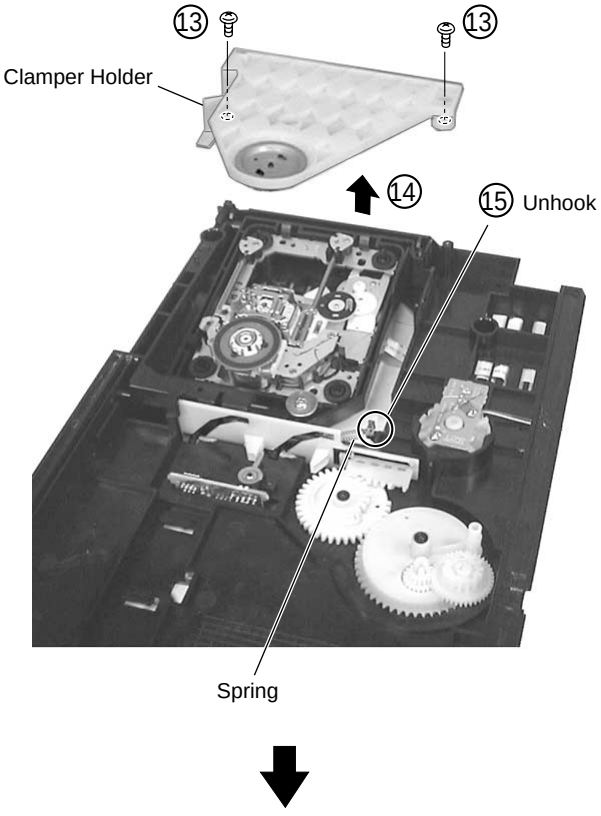
● When Tray Cannot Pull Out

Tray cannot pull out that is not at a position of home position.
(When two hooks (⑨) hide under the Rotary Tray and can not pull out the tray.)
In that case, set the tray in the following procedures.

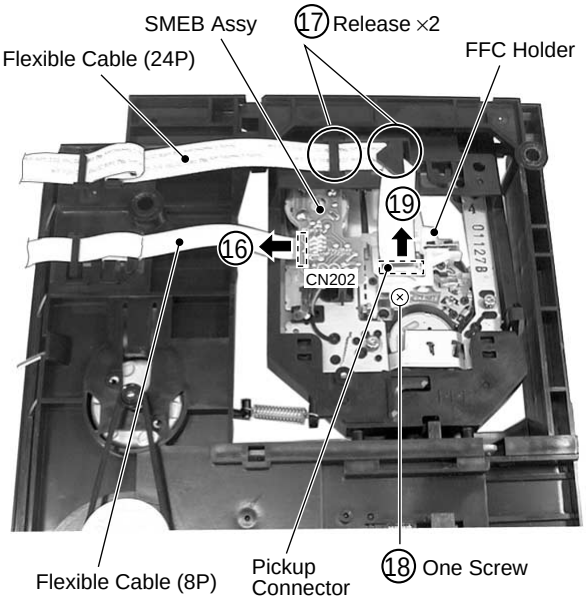


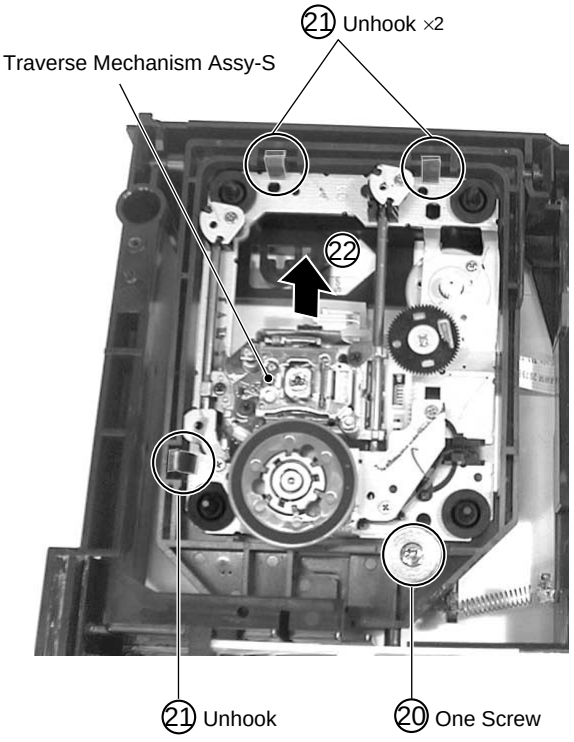
Note :
Do not need to match with Disc No. (1 to 5) when returns the tray.
Detect it automatically.





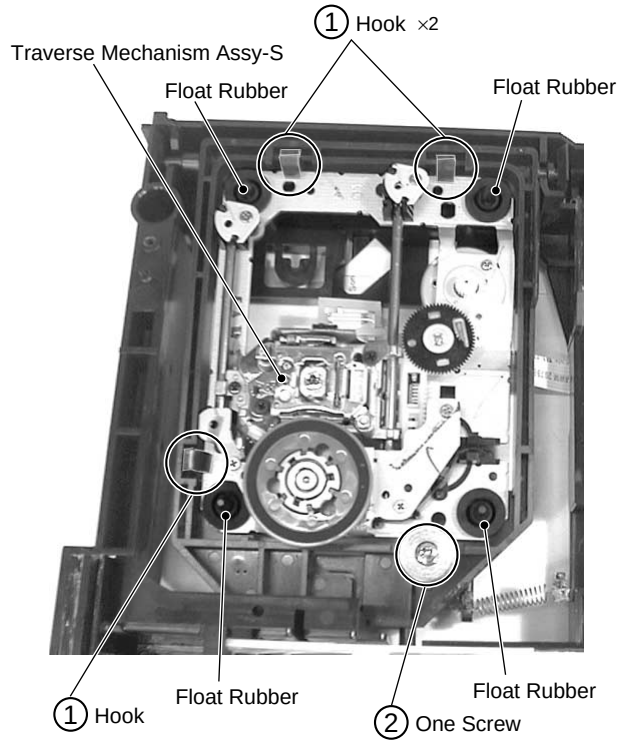
• **Bottom View**

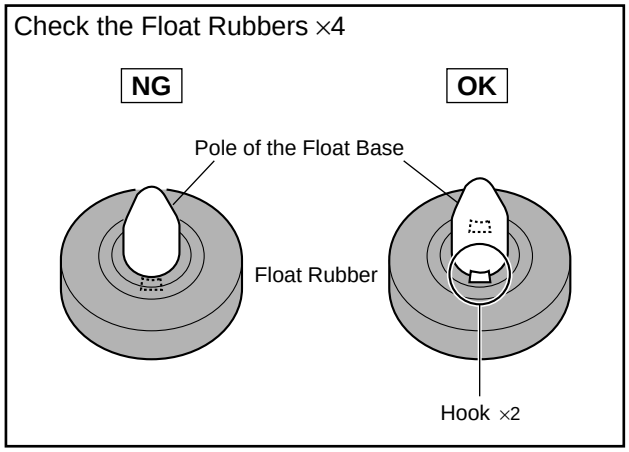




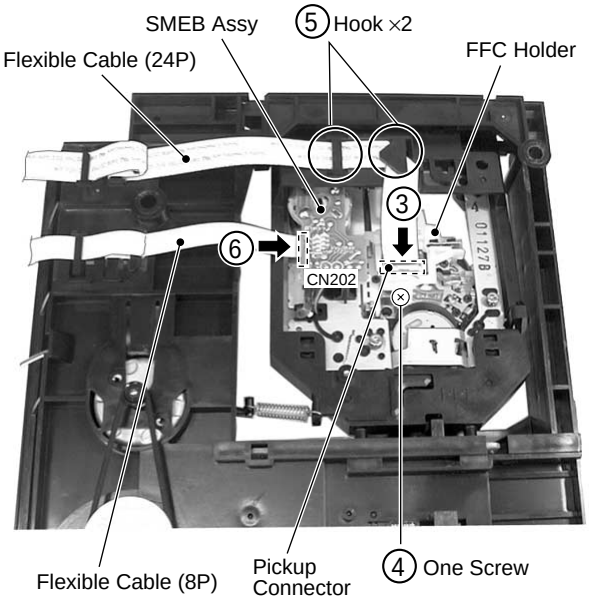
Exchange

● Assembly

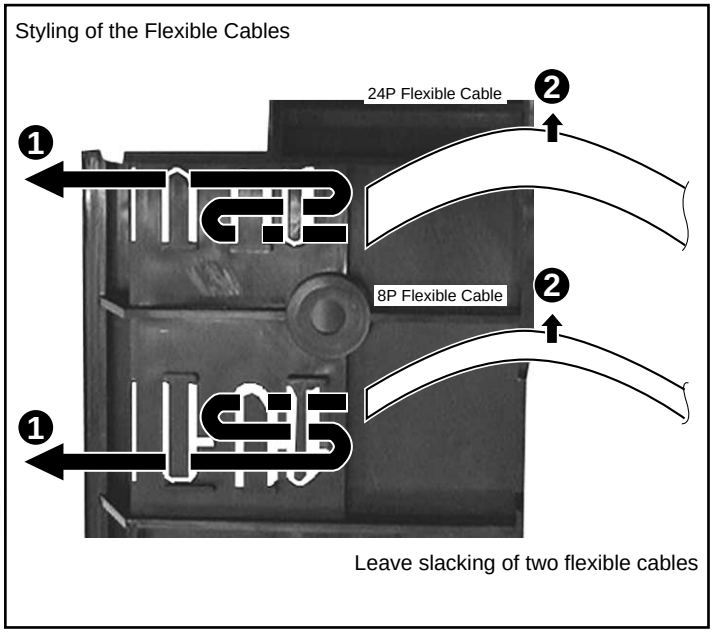


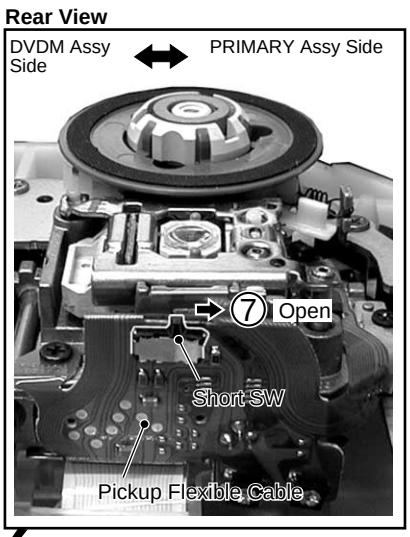


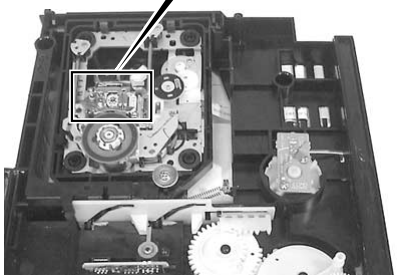
• **Bottom View**



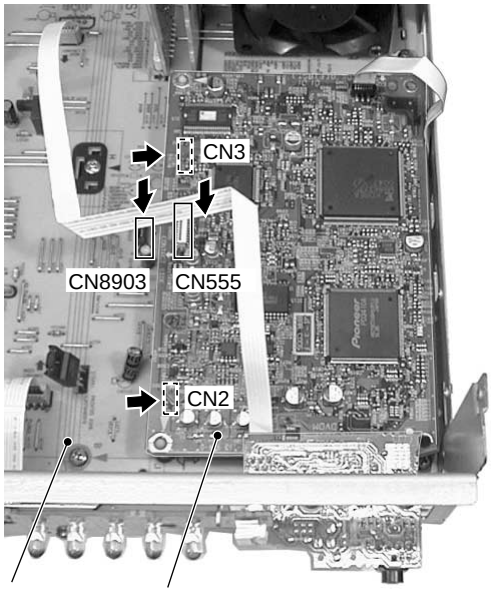
Reference

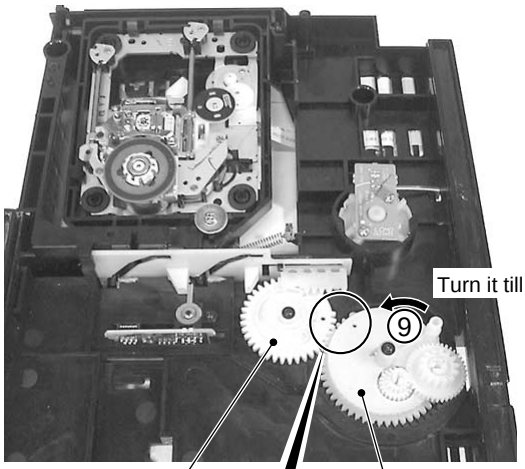




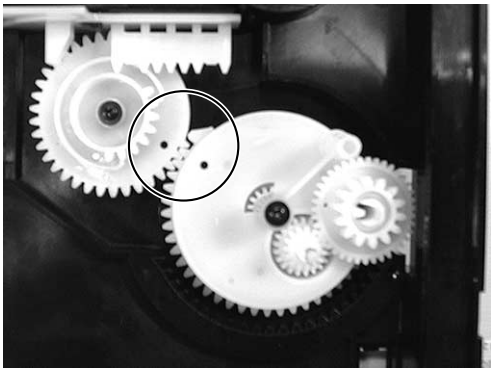


⑧ Connect four connectors.



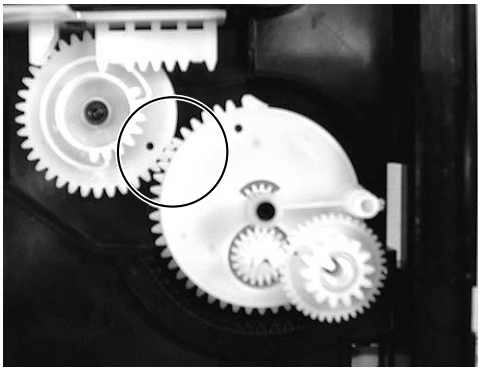


OK

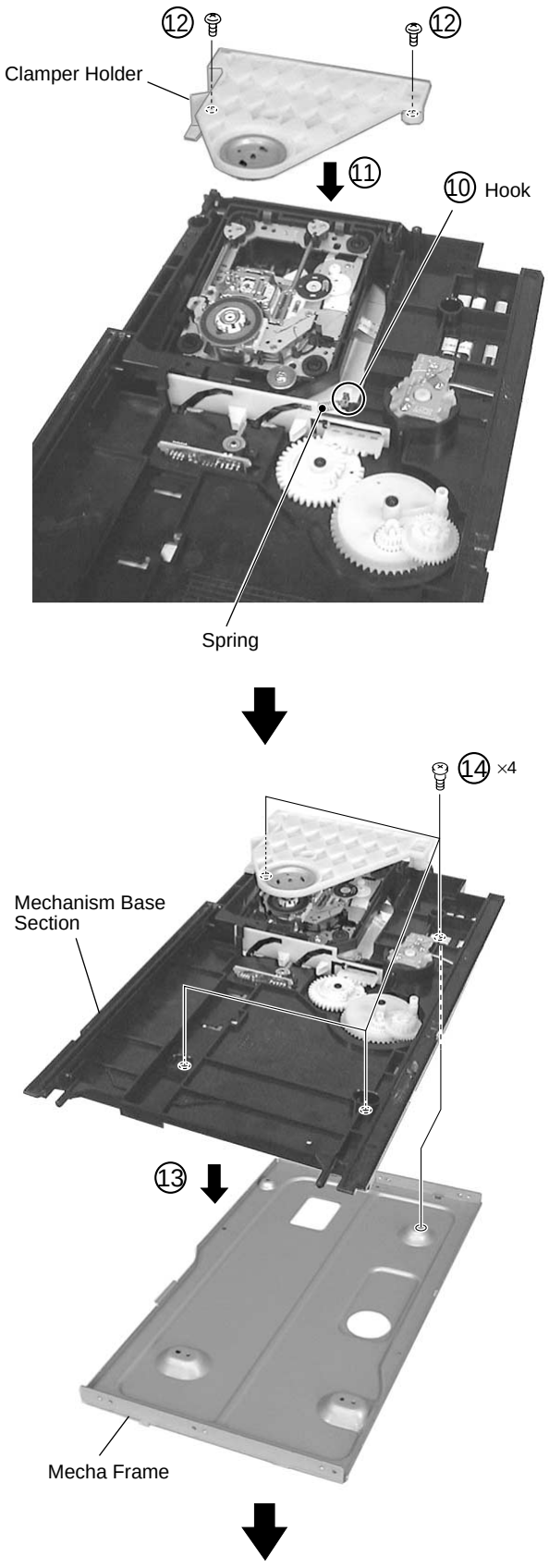


Match it between first teeth of the gear.

NG

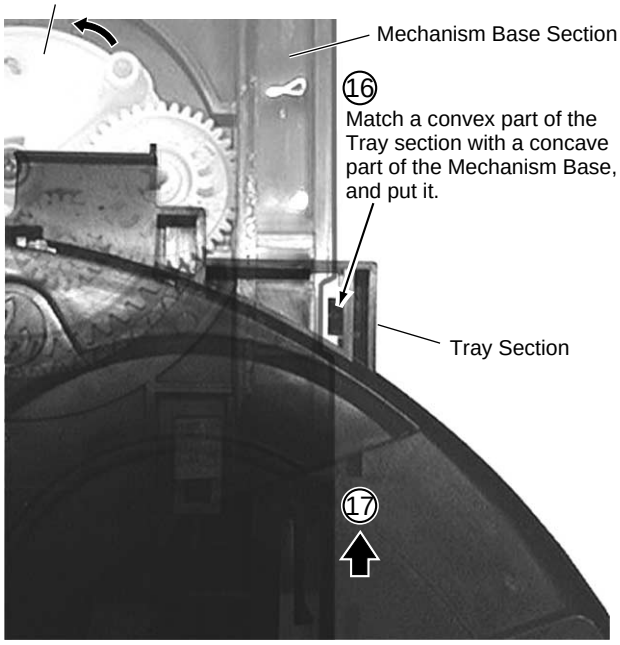


When the tooth of gear deviates more than two or three tooth, Strange sound is generated, and cause trouble.

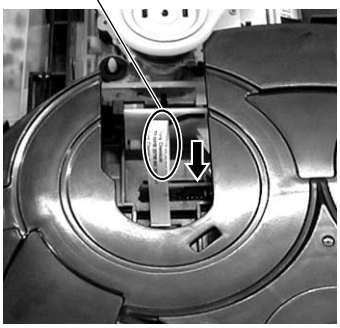

⑫
⑫
Clamper Holder
⑪
⑩ Hook
Spring
⑭ ×4
Mechanism Base Section
⑬
Mecha Frame

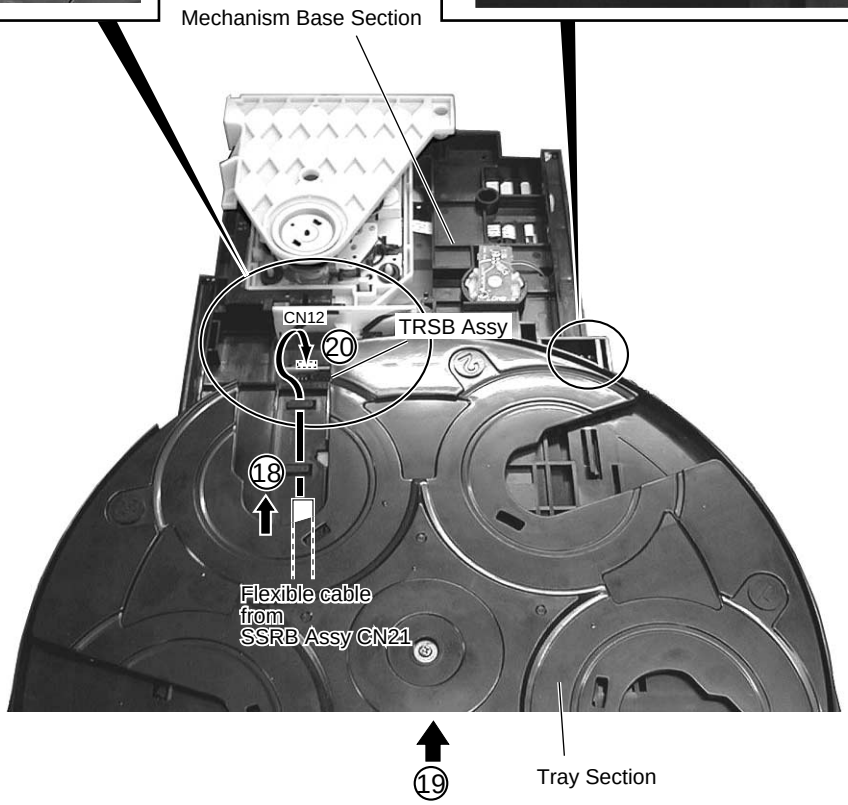
⑮ Assemble the Tray Section to the Mechanism Base Section

Confirmation :
Fully turning the Planet Base to an arrow direction.


Mechanism Base Section
⑯
Match a convex part of the Tray section with a concave part of the Mechanism Base, and put it.
Tray Section
⑰

⑳ Bring an extra flexible cable close to the front side.

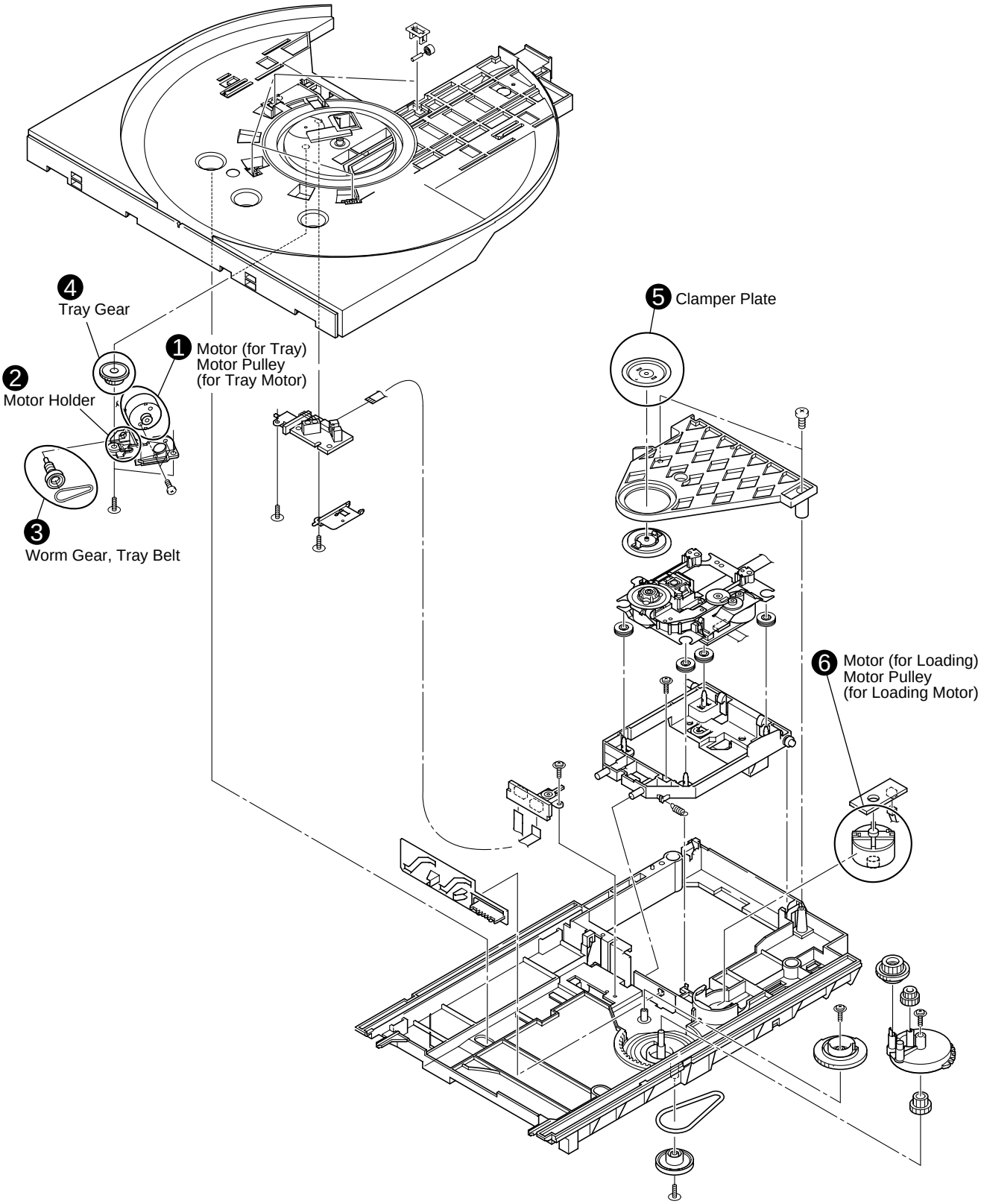




㉒ Assemble the Front Panel Section.

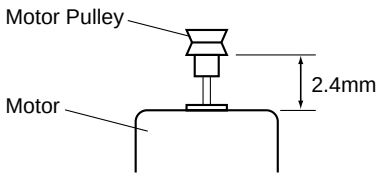
㉓ Assemble the Bonnet. (Screws × 7)

● Important Points when Assembling the Mechanism Section

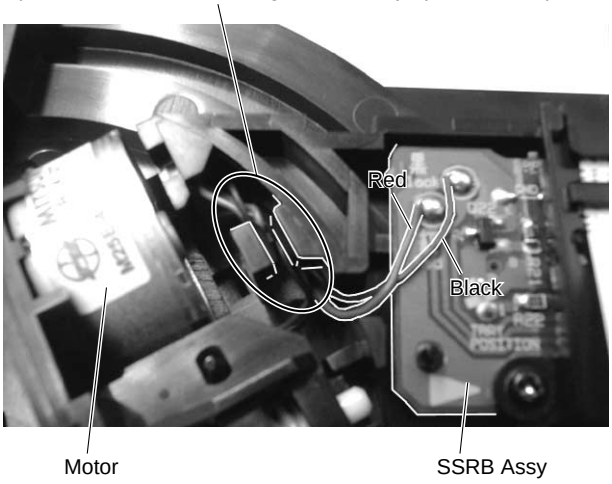


❶ Motor (for Tray), Motor Pulley (for Tray Motor)

Adjust the height of the Motor Pulley to 2.4mm.

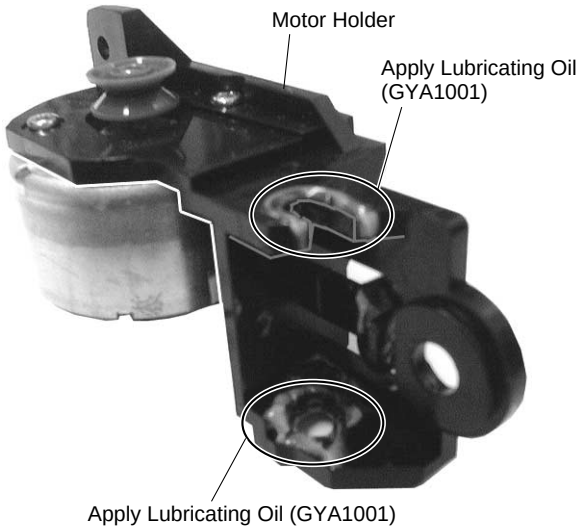


Wiring lead wires into the hook of Motor Holder.
(So that lead wires are caught at the Tray open or close.)

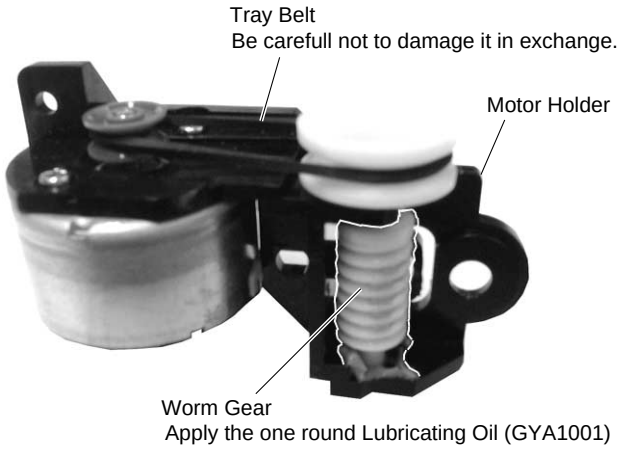


❷ Motor Holder

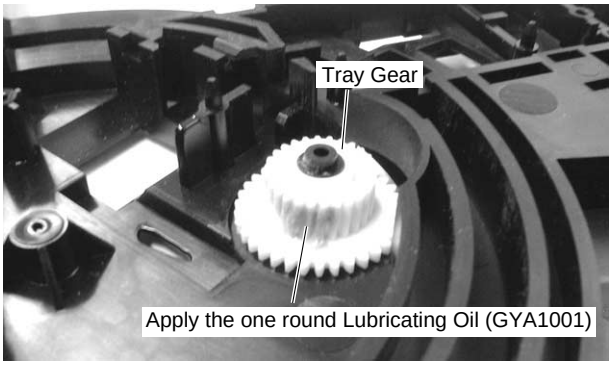
Apply Lubricating Oil (GYA1001) to the holder part.



❸ Worm Gear and Tray Belt

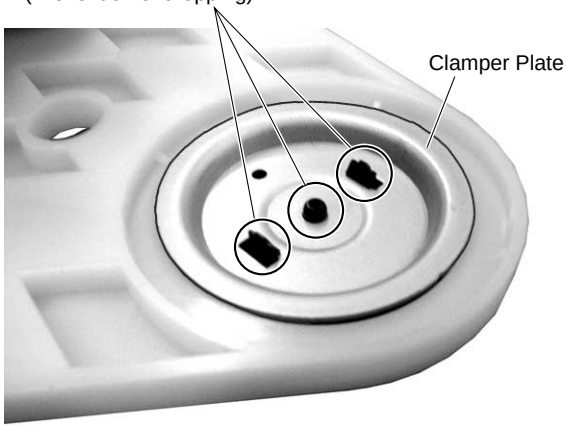


❹ Tray Gear



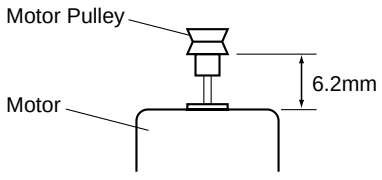
❺ Clamper Plate

Apply the adhesive on the inside of hooks.
(Prevention of dropping)



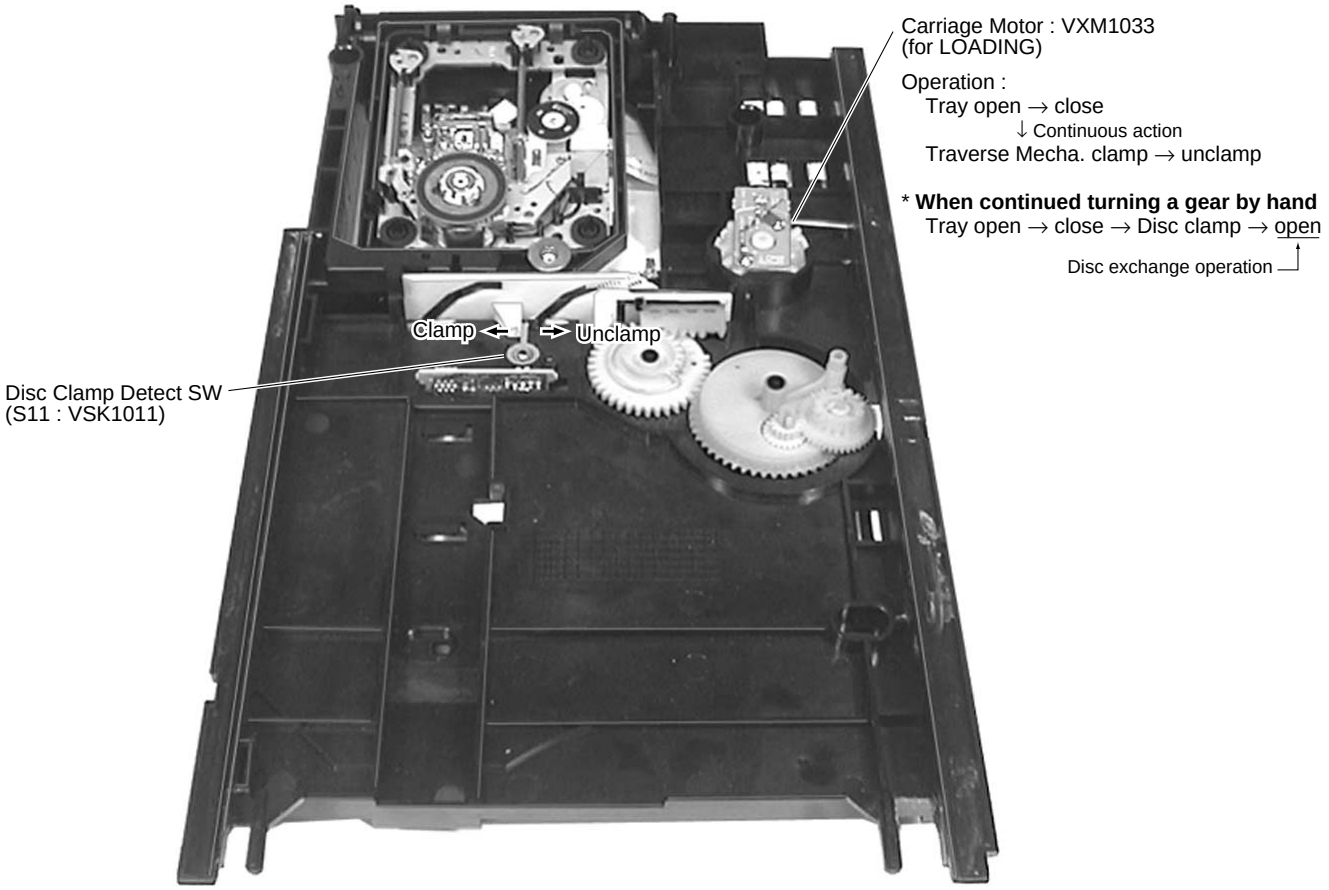
❻ Motor (for Loading), Motor Pulley (for Loading Motor)

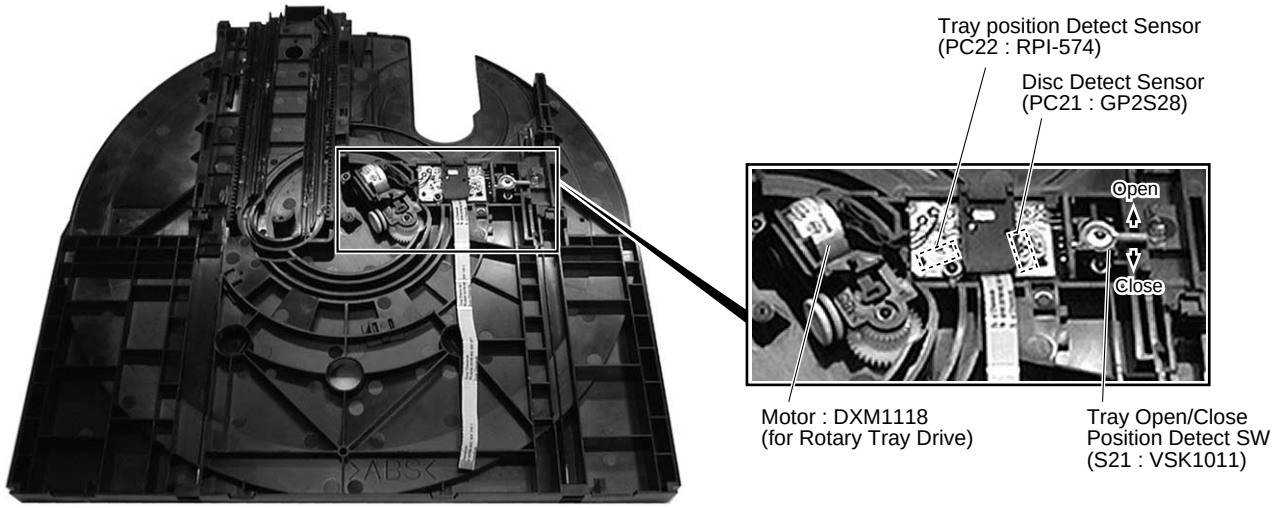
Adjust the height of Motor Pulley to 6.2mm.



7.1.8 TROUBLE SHOOTING FOR MECHANISM SECTION

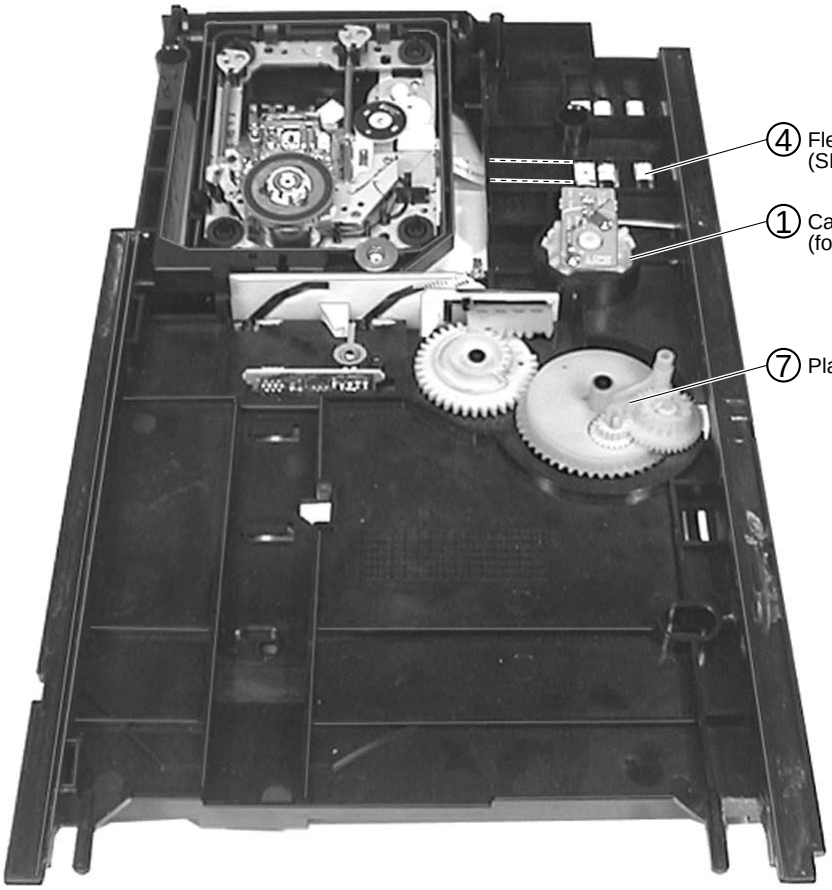
Location of Motors and Switches





Trouble Shooting

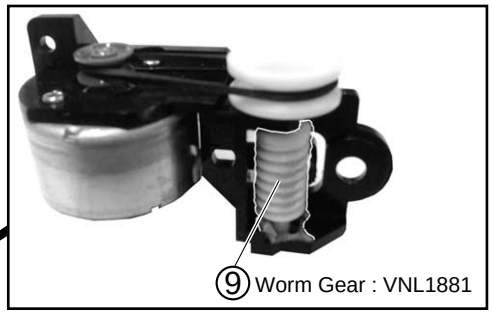
Condition	Condition	Trouble Point
Tray does not open. (Nothing works) POWER OFF Key → "OFF" indication does not disappear ⏏ (OPEN) key → "OPEN" indication does not disappear ► (PLAY) key → It becomes indication of "OPEN" from "NO DISC", and stop by the condition. (When a disc is not put in the Tray.)	Loading Motor is damage, disconnection or contact defectiveness.	①
Tray does not open. (Hear the clatter continuation sound.) It becomes the state that flashed indication of " 1 2 3 4 5 ".	Contact defectiveness of Flexible Cable (7P) or the connector comes off, etc.. Tray Open/Close Position SW (S21) is damage or contact defectiveness, etc..	② ③
Tray opens it in POWER ON freely, and stay by the state.	Contact defectiveness of Flexible Cable (8P) or the connector comes off, etc..	④
Rotary Tray does not stop at the home position. (May stop on the way of rotation suddenly.)	Tray Position Detect Sensor (PC22) is damage or contact defectiveness, etc..	⑤
"CHANGE" indication does not change in POWER ON, and Rotary Tray does not move. (In this case only opening and closing of Tray are possible.)	Motor for Rotary Tray Drive is damage, disconnection or contact defectiveness.	⑥
Hear the clatter sound in clamp of the disc.	A gear of Planet Base deviates.	⑦
Rotation of Rotary Tray does not stop in POWER ON. In this case indication more than two which seems to be " 1 2 3 4 5 " lights, and abnormal indication appears.	Slit part of bottom of the Rotary Tray is damaged.	⑧
When Rotary Tray turns, hear the rattle and large sound.	Damage of Worm Gear or grease is insufficient.	⑨
Playback even if indicates it with "NO DISC". Take time till playbacks.	Disc Detect Sensor (PC21) is damage or contact defectiveness, etc..	⑩



④ Flexible Cable (8P)
(SMEB CN202 ↔ DVDM CN3)

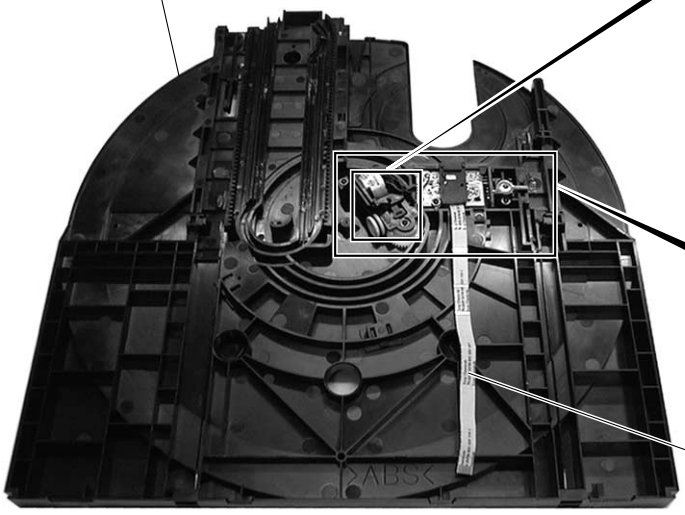
① Carriage Motor : VXM1033
(for LOADING)

⑦ Planet Base : VNL1874



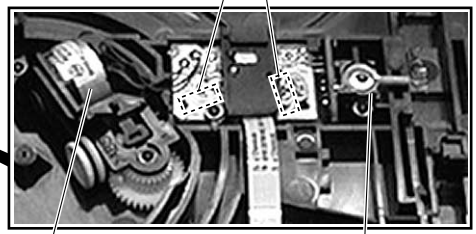
⑨ Worm Gear : VNL1881

⑧ Rotary Tray : VNK4739



⑤ Tray position Detect Sensor
(PC22 : RPI-574)

⑩ Disc Detect Sensor
(PC21 : GP2S28)



⑥ Motor : DXM1118
(for Rotary Tray Drive)

③ Tray Open/Close
Position Detect SW
(S21 : VSK1011)

② Flexible Cable (7P) : VDA1835
(TRSB CN12 ↔ SSRB CN21)

7.2 PARTS

7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

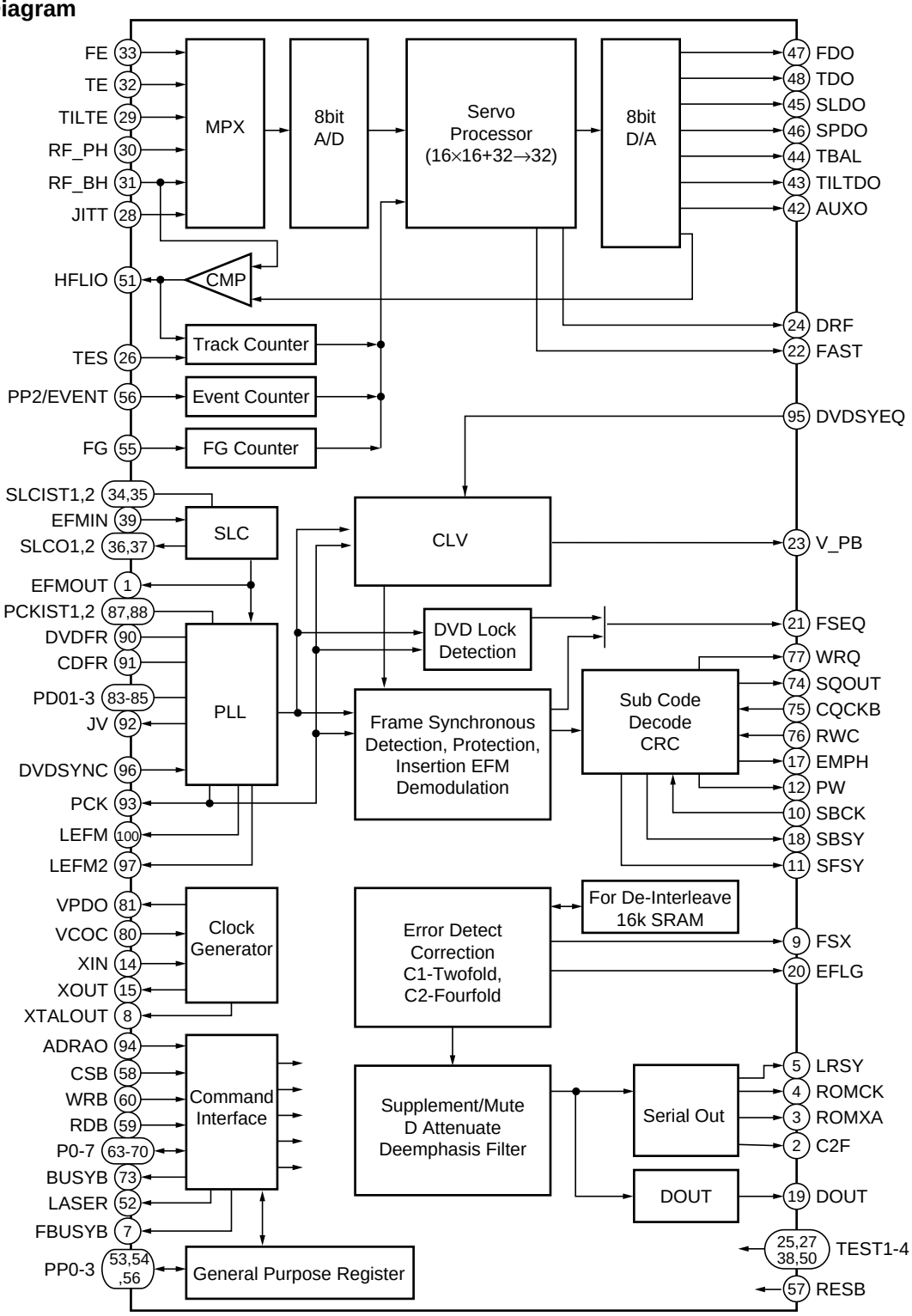
●List of IC

LC78652W, PD3410A, MB86373B, PDC076A, BA6195FP, AK4527BVQ, LC89056W-E, STK413-000

■ LC78652W (DVDM ASSY : IC2)

• Servo DSP IC

● Block Diagram



●Pin Function

No.	Pin Name	I/O	Function
1	EFMOUT	O	Output the state that was binary-stated value EFM
2	C2F	O	C2 flag output
3	ROMXA	O	CD-ROM data output
4	ROMCK	O	Shift clock output for CD-ROM data output
5	LRSY	O	L/R clock output for CD-ROM data output
6	PP3	I/O	General-purpose port input/output / DVD sync. signal input N ch-OD output
7	FBUSYB	O	Busy signal output of DSP process operation N ch-OD output
8	XTALOUT	O	External system clock output
9	FSX	O	CD 1 frame sync. signal output
10	SBCK	I	Subcode reading out clock input
11	SFSY	O	Frame sync. signal output of subcode
12	PW	O	Subcode P, Q, R, S, T, U, V and W output
13	VSS	–	GND pin
14	XIN	I	Connect a crystal resonator (16.9344MHz)
15	XOUT	O	Connect a crystal resonator
16	DVDD1	–	3.3V power supply of the oscillation circuit
17	EMPH	O	Monitor pin of the deemphasis
18	SBSY	O	Sync. signal output of the subcode block
19	DOUT	O	Audio EIAJ data output
20	EFLG	O	Error correction state monitor of the error correction C1 and C2
21	FSEQ	O	Detection monitor of the CD/DVD frame sync. signal
22	FAST	O	Playback speed monitor N ch-OD output
23	V_PB	O	Monitor output of the rough servo/CLV control
24	DRF	O	In focus monitor
25	TEST3	I	Test input 3
26	TES	I	Tracking error signal input
27	TEST2	I	Test input 2
28	JITT	I	Jitter quantity detecting signal input of EFM PLL
29	TILTE	I	Tilt error signal input
30	RF_PH	I	RF peak hold signal input
31	RF_BH	I	RF bottom hold signal input
32	TE	I	Tracking error signal input
33	FE	I	Focus error signal input
34	SLCIST1	–	Current setting pin 1 of the constant current charge pump for SLC
35	SLCIST2	–	Current setting pin 2 of the constant current charge pump for SLC
36	SLCO1	O	Control output 1 for SLC
37	SLCO2	O	Control output 2 for SLC
38	TEST1	I	Test input 1
39	EFMIN	I	EFM/EFM + input
40	AVDD	–	5V power supply of A/D and D/A for servo
41	AVSS	–	GND of A/D and D/A for servo
42	AUXO	O	DA auxiliary output
43	TILTDO	O	Tilt control signal output
44	TBAL	O	Tracking balance control signal output
45	SLDO	O	Sled control signal output
46	SPDO	O	Spindle control signal output
47	FDO	O	Focus control signal output
48	TDO	O	Tracking control signal output
49	VREF	–	Reference level of D/A for servo
50	TEST4	I	Test input 4

No.	Pin Name	I/O	Function
51	HFLIO	I/O	Mirror detection signal input/output
52	LASER	O	Output pin for laser ON/OFF control
53	PP0/DVD_CDB	I/O	General-purpose port input/output / Disc discrimination signal output
54	PP1/CRCERRB	I/O	General-purpose port input/output / Subcode CRC result signal output
55	FG	I	FG counter input
56	PP2/EVENT	I/O	General-purpose port input/output / Event counter input
57	RESB	I	Reset input
58	CSB	I	Chip select input
59	RDB	I	Internal state reading signal input
60	WRB	I	Command / data writing signal input
61	DVDD2	–	5V power supply
62	VSS	–	GND
63	P0	I/O	Command / data input/output
64	P1		
65	P2		
66	P3		
67	P4		
68	P5		
69	P6		
70	P7		
71	VSS	–	GND
72	DVDD1	–	3.3V power supply for internal
73	BUSYB	O	Busy signal output of command process
74	SQOUT	O	Serial output of subcode Q
75	CQCKB	I	Shift clock input for subcode Q data output
76	RWC	I	Update permission input of subcode Q
77	WRQ	O	Read out ready monitor of subcode Q
78	AVSS	–	PLL GND for internal system clock
79	VRPFR	–	VCO oscillation range setting of PLL for system clock
80	VCOC	I	Connect a PLL filter for system clock
81	VPDO	O	
82	AVDD	–	PLL 5V power supply for system clock
83	PDO1	I/O	PLL filter connection pin 1 for EFM playback
84	PDO2	I/O	PLL filter connection pin 2 for EFM playback
85	PDO3	I/O	PLL filter connection pin 3 for EFM playback
86	AVSS	–	PLL GND for EFM playback
87	PCKIST1	–	Current setting 1 of PLL constant current charge pump for EFM playback
88	PCKIST2	–	Current setting 2 of PLL constant current charge pump for EFM playback
89	AVDD	–	PLL 5V power supply for EFM playback
90	DVDFR	–	VCO oscillation range setting of PLL for EFM playback 1
91	CDFR	–	VCO oscillation range setting of PLL for EFM playback 2
92	JV	O	Jitter output of PLL clock for EFM playback
93	PCK	O	Bit clock output for EFM playback
94	ADRAO	I	Address input
95	DVDSYEQ	I	DVD synchronize pulse input
96	DVDSYNC	I	DVD synchronous signal input
97	LEFM2	O	Output the state that cut and out a signal which was binary-stated value EFM with PCK 2
98	DVDD1	–	3.3V power supply for I/O
99	VSS	–	GND
100	LEFM	O	Output the state that cut and out a signal which was binary-stated value EFM with PCK 1

■ PD3410A (DVDM ASSY : IC11)

• System Control IC

● Pin Function

No.	Mark	Pin Name	I/O	Function
1	XCS3/XCASL	XCS3	O	PD4995A (MY CHIP) chip select signal output
2	GND	GND	–	GND
3	CK	–	O	N.C.
4	VCC	V+3D	–	V+3D
5	PICLK	–	I/O	N.C.
6	PIDATA	–	I/O	N.C.
7	GND	GND	–	GND
8	PORTH0	–	O	N.C.
9	PORTH1	–	O	N.C.
10	PORTH2	–	O	BU2158F (Clock generator) N.C.
11	PORTH3	V_SEL2	O	Composite/S switching signal output of the skirt terminal [WY model]
12	VCC	V+3D	–	V+3D
13	PORTH4	–	O	N.C.
14	PORTH5	–	O	N.C.
15	PORTH6	–	O	N.C.
16	PORTH7	–	O	N.C.
17	GND	GND	–	GND
18	EXTAL	EXTAL	I	Connect a ceramic resonator
19	XTAL	XTAL	O	
20	VCC	V+3D	–	V+3D
21	PORTG0	XCSDF0	O	DAC chip select signal output (←XLAT3)
22	PORTG1	XCSDF1	O	Chip select signal output for audio DSP microcomputer interface (←XLT_DACS)
23	PORTG2	–	O	N.C.
24	PORTG3	–	O	N.C.
25	PORTG4	LFEON	O	Select the mix to the front L ch and R ch of LFE element
26	GND	GND	–	GND
27	PORTG5	6CHMD	O	Switch the DAC outputs 2ch / 6ch (←XDVRST2)
28	PORTG6	–	O	DASP through DASP output / to AV-1 output N.C.
29	PORTG7	XAMUTE	O	Last stage mute signal output of the audio
30	PORTF0	44X48	O	DAC 44/48 FS switching signal output
31	PORTF1	–	I	N.C.
32	PORTF2	–	O	3D audio ON/bypass switching signal output N.C.
33	VCC	V+3D	–	V+3D
34	PORTF3	–	O	N.C.
35	PORTF4	XAVSRST	O	Sync. reset port
36	PORTF5	DSCSNS	O	Disc detection pulse output L : Disc exist

No.	Mark	Pin Name	I/O	Function
37	PORTF6	–	O	N.C.
38	PORTF7	XCSVE	O	Serial communication enable signal output of the video encoder [WY model]
39	GND	GND	–	GND
40	AVSS	GND	–	GND
41	AVCC	V+3D	–	V+3D
42	OUTA_P	LODRV	O	Loading drive output
43	VREF	V+3D	–	V+3D
44	OUTB_P	TEI	O	Tracking offset signal output
45	AVSS	GND	–	GND
46	AVSS	GND	–	GND
47	PORTE0	V_SEL	O	Component/composite switching signal output
48	PORTE1	–	I	N.C.
49	PORTE2	–	I	N.C.
50	PORTE3	FOFST1	I/O	Focus offset adjustment output 1
51	PORTE4	FOFST2	I/O	Focus offset adjustment output 2
52	PORTE5	XDFINH	I/O	Defect shunt signal output
53	PORTE6	DVD/XCD	O	DVD/CD switching signal output
54	PORTE7	LD1_ON	O	650 nm laser diode ON signal output
55	PORTD0	LD2_ON	O	780 nm laser diode ON signal output
56	VCC	V+3D	–	V+3D
57	PORTD1	DPD/TE	O	1 beam/3 beams switching signal output
58	PORTD2	AGOFF	O	AGC ON/OFF switching signal output of RF IC
59	PORTD3	XCD2X	O	Signal output for switching the double speed playback (VCD)
60	PORTD4	OEICG	O	OEIC gain switching signal output
61	GND	GND	–	GND
62	PORTD5	XMON	O	ON/OFF switching signal output of the spindle motor control output
63	PORTD6	–	O	N.C.
64	PORTD7	–	I	N.C.
65	PORTJ0	XDRVMUT	O	Driver mute output
66	PORTJ1	–	O	N.C.
67	PORTJ2	XDSPRST	O	Servo DSP reset
68	PORTJ3	SED0	I	Tray rotation drive
69	VCC	V+3D	–	V+3D
70	PORTJ4	TM_ENT	I	Test mode entry
71	PORTJ5	–	O	N.C.
72	PORTJ6	VSEL_SW	I	Component/composite SW input
73	PORTJ7	–	I	N.C.
74	PB0/TIOCA2	XCBUSY	I	Command busy input
75	PB1/TIOCB2	XABUSY	I	Auto-sequence busy input
76	PB2/TIOCA3	XINT2	I	Interrupt input 2 (AV-1)
77	VCC	V+3D	–	V+3D
78	PB3/TIOCB3	LT1	O	Communication response signal output to the FL controller
79	PB4/TIOCA4	SBSY	I	Subcode block sync. input
80	XMTEST	–	I	Test terminal (V+3D)
81	XCPUMD	–	I	Test terminal (V+3D)
82	XRES	XRESET	I	Reset input

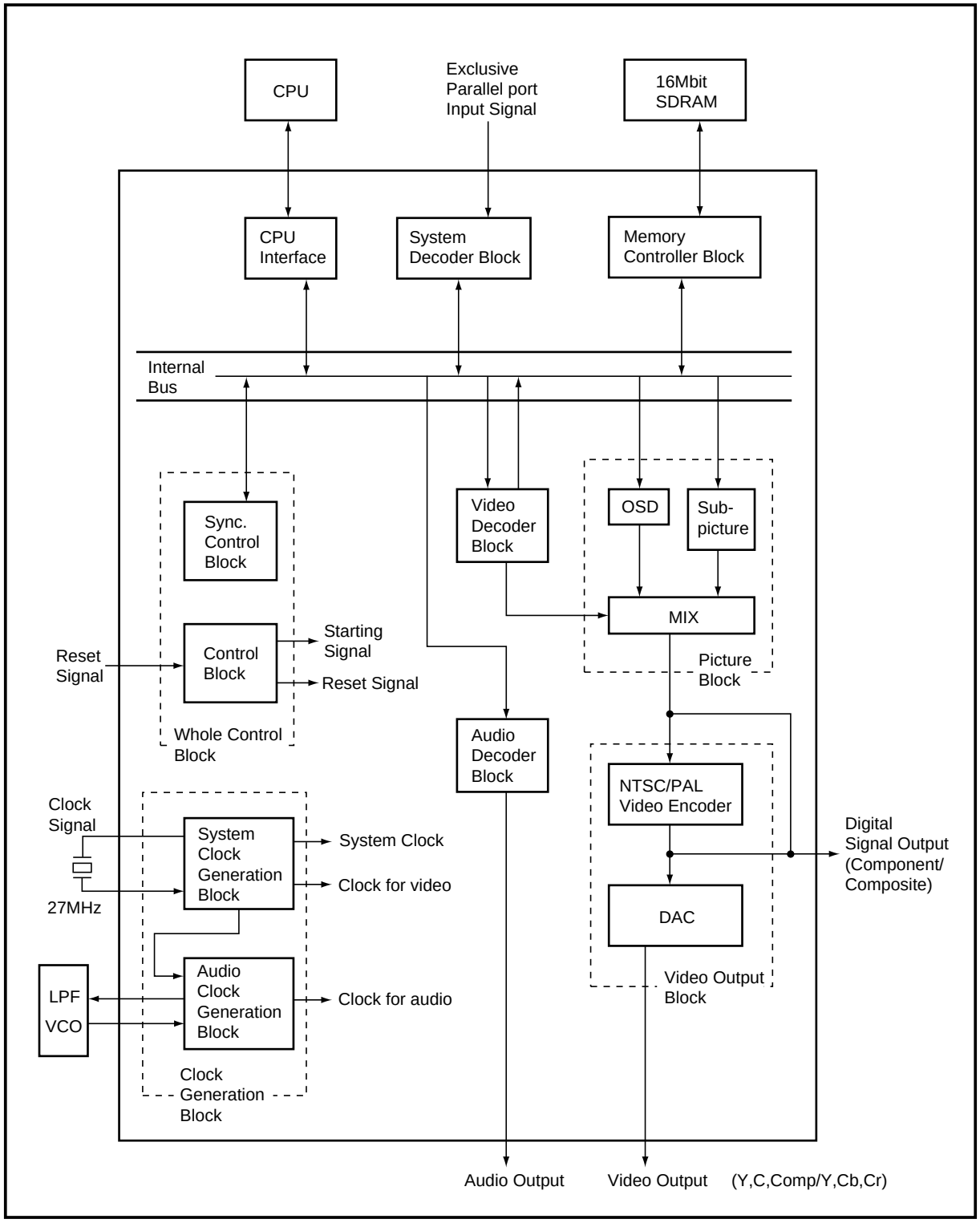
No.	Mark	Pin Name	I/O	Function
83	GND	GND	–	GND
84	AN0	LODPOS	I	Loading position input
85	AN1	SLDPOS	I	Slider position input
86	AN2	CLAMP	I	Clamp position SW input
87	AN3	NAP_SW	I	NTSC/AUTO/PAL SW input
88	AN4	XOEM	I	Input terminal of OEM model protection
89	AN5	LDDEAD	I	Input for LD current value display
90	AN6	–	I	N.C.
91	AN7	–	I	N.C.
92	Avref	V+3D	–	V+3D
93	AVCC	V+3D	–	V+3D
94	AVSS	GND	–	GND
95	PB5/TIOCB4	TRYPOS	I	Disc number count input
96	PB6/TIOCXA4/TCLKC	C2F	I	C2 error input
97	PB7/TIOCXB4/TCLKD	XRDY	I	Communication request input from the FL controller
98	PB8/RxD0	SSI	I	Serial data input (FL controller)
99	PB9/TxD0	SSO	O	Serial data output (FL controller)
100	VCC	V+3D	–	V+3D
101	PB10/RxD1	RXD	I	Data input of the RS-232C
102	PB11/TxD1	TXD	O	Data output of the RS-232C
103	PB12/XIRQ4/SCK0	SSCK	I/O	Serial clock output (FL controller)
104	PB13/XIRQ5/SCK1	XIRQL10	I	Interrupt input #0 (MY CHIP)
105	GND	GND	–	GND
106	PB14/XIRQ6	XIRQL11	I	Interrupt input #1 (MY CHIP)
107	PB15/XIRQ7	XINT0	I	Interrupt input #0 (AV-1)
108	PA0/XCS4/TIOCA0	XCS4	O	Servo DSP chip select signal output
109	PA1/XCS5/XRAS	–	O	N.C.
110	PA2/XCS6/TIOCB0	XCS6	O	AV-1 chip select signal output
111	XWAIT	XWAIT	I	Wait signal input
112	XWRL	XWRL	O	Write pulse output L
113	GND	GND	–	GND
114	XWRH	XWRH	O	Write pulse output H
115	XRD	XRD	O	Read pulse output
116	PA7/XBACK	XCURDET	I	Over-current detection signal input
117	PA8/XBREQ	CTS	I	RS-232C transfer permit input
118	PA9/XAH/XIRQOUT/ XADTRG	DTR	O	RS-232C transfer permit output
119	PA10/DPL/TIOCA1	XINT1	I	Interrupt input 1 (AV-1)
120	PA11/DPH/TIOCB1	THLD	I	Tracking hold signal input
121	VCC	V+3D	–	V+3D
122	PA12/XIRQ0/DACK0/ TCLKA	DACK0	O	DMA response output (MY CHIP)
123	PA13/XIRQ1/ XDREQ0/TCLKB	XDREQ0	I	DMA request input (MY CHIP)
124	PA14/XIRQ2/XDACK1	XDACK1	O	DMA response output (AV-1)
125	PA15/XIRQ3/XDREQ1	XDREQ1	I	DMA request input (AV-1)
126	AD0	D0	I/O	Data bus 0

No.	Mark	Pin Name	I/O	Function
127	GND	GND	–	GND
128	AD1	D1	I/O	Data bus 1
129	AD2	D2	I/O	Data bus 2
130	AD3	D3	I/O	Data bus 3
131	AD4	D4	I/O	Data bus 4
132	AD5	D5	I/O	Data bus 5
133	AD6	D6	I/O	Data bus 6
134	VCC	V+3D	–	V+3D
135	AD7	D7	I/O	Data bus 7
136	AD8	D8	I/O	Data bus 8
137	AD9	D9	I/O	Data bus 9
138	AD10	D10	I/O	Data bus 10
139	GND	GND	–	GND
140	AD11	D11	I/O	Data bus 11
141	AD12	D12	I/O	Data bus 12
142	AD13	D13	I/O	Data bus 13
143	AD14	D14	I/O	Data bus 14
144	VCC	V+3D	–	V+3D
145	AD15	D15	I/O	Data bus 15
146	A0 (XHBS)	A0	O	Address bus 0
147	A1	A1	O	Address bus 1
148	A2	A2	O	Address bus 2
149	GND	GND	–	GND
150	A3	A3	O	Address bus 3
151	A4	A4	O	Address bus 4
152	A5	A5	O	Address bus 5
153	A6	A6	O	Address bus 6
154	A7	A7	O	Address bus 7
155	A8	A8	O	Address bus 8
156	A9	A9	O	Address bus 9
157	A10	A10	O	Address bus 10
158	A11	A11	O	Address bus 11
159	A12	A12	O	Address bus 12
160	A13	A13	O	Address bus 13
161	A14	A14	O	Address bus 14
162	A15	A15	O	Address bus 15
163	A16	A16	O	Address bus 16
164	A17	A17	O	Address bus 17
165	VCC	V+3D	–	V+3D
166	A18	A18	O	Address bus 18
167	A19	A19	O	Address bus 19
168	A20	A20	O	Address bus 20 [RAM model]
169	A21	A21	O	N.C.
170	XNMI	XNMI	I	V+3D
171	GND	GND	–	GND
172	XCS10	–	O	N.C.
173	XCS20	XCS20	O	Chip select signal output of the flash ROM
174	XCS22	–	O	Chip select signal output of the GUI ROM [OEM model]
175	XCS23	XCS23	O	Chip select signal output of the SRAM
176	XCS2	–	O	N.C.

■ MB86373B (DVDM ASSY : IC18)

- **MPEG2 Decoder IC**

● **Block Diagram**



● Pin Function

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
1	CLKSEL	I	ON/OFF signal of PLL ("H" : ON, "L" : OFF)	27	VDD	–	2.5V power supply
2	DIGCPN7	O	Digital component signal output (MSB) Digital Y signal output (9-bit) (MSB)	28	DIGCOMP4	O	Digital composite signal output Digital C signal output
3	VSS	–	GND	29	DIGCOMP3		
4	DIGCPN6	O	Digital component signal output Digital Y signal output (9-bit)	30	DIGCOMP2		
5	DIGCPN5			31	DIGCOMP1		
6	DIGCPN4			32	DIGCOMP0		Digital composite signal output (LSB) Digital C signal output (LSB)
7	DIGCPN3			33	DACK	O	27 MHz clock output
8	DIGCPN2			34	N.C.	–	Non connection
9	DIGCPN1			35	VSSA3	–	GND (D/A converter)
10	VDD	–	2.5V power supply	36	ANAC	O	Analog color (C) output signal
11	DIGCPN0	O	Digital component signal output (LSB) Digital Y signal output (9-bit) (LSB)	37	VDDA3	–	2.5V power supply (for built-in D/A converter only)
12	RBSEL	O	Cb and Cr discrimination signal at the digital component signal output. LSB at the digital Y signal output.	38	VSSA2	–	GND (D/A converter)
13	XHS	O	Horizontal sync. output signal	39	ANAY	O	Analog luminance (Y) output signal
14	XVS	O	Vertical sync. output signal	40	VDDA2	–	2.5V power supply (for built-in D/A converter only)
15	VSS	–	GND	41	VREF	I	Reference voltage for D/A converter
16	XRESET	I	LSI reset signal	42	VRO	O	Internal current setting pin of D/A converter
17	XLDCSYNC	I	External sync. signal input (LD mode)	43	VDDA4	–	2.5V power supply (for built-in D/A converter only)
18	KEY	O	KEY signal for LD and OSD overlay (LD mode)	44	VSSA1	–	GND (D/A converter)
19	PD	O	Phase comparison result output signal of horizontal sync. (LD mode)	45	ANACOMP	O	Analog composite output signal
20	VFLD	O	Field discrimination signal at the digital signal output H : even field L : odd field	46	VDDA1	–	2.5V power supply (for built-in D/A converter only)
21	DIGCOMP9	O	Digital composite signal output (MSB) Digital C signal output (MSB)	47	BF	O	Burst flag signal
22	DIGCOMP8	O	Digital composite signal output Digital C signal output	48	XBLK	O	H/V composite blanking signal
23	DIGCOMP7			49	TEST4	O	Normally, set to "open".
24	DIGCOMP6			50	VSS	–	GND
25	DIGCOMP5			51	TEST0	I	Normally, set to "open".
26	VSS	–	GND	52	TEST1	I	"L" status normally

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
53	DAIIN	I	Digital data input of external input (SPDIF)	92	HADRS10	I	CPU address bus signal (MSB)
54	CDDATA	I	Audio data input of external input (correspond to CD)	93	HADRS9	I	CPU address bus signal
55	CDLR	I	Data channel clock input of external input (correspond to CD)	94	HADRS8		
56	CDBCK	I	Data clock input of external input (correspond to CD)	95	HADRS7		
57	AODATA3	O	Audio decode data	96	VSS	–	GND
58	AODATA2			97	VDD	–	2.5V power supply
59	AODATA1			98	HADRS6	I	CPU address bus signal
60	VSS	–	GND	99	HADRS5		
61	VDD	–	2.5V power supply	100	HADRS4		
62	AODATA0	O	Audio decode data	101	HADRS3		
63	AOPCM	O	Digital audio interface output (compression data)	102	HADRS2		CPU address bus signal (LSB)
64	AODAI	O	Digital audio interface output (decode data)	103	HDATA15	I/O	CPU data bus signal (MSB)
65	LRCK	O	Data channel clock for D/A and digital filter	104	HDATA14		CPU data bus signal
66	AOMCK	O	Master clock for D/A and digital filter	105	HDATA13		
67	BCK	O	Bit clock for D/A and digital filter	106	HDATA12		
68	TEST2	I	Normally, set to "open".	107	VSS	–	GND
69	TEST3			108	HDATA11	I/O	CPU data bus signal
70	NC	–	Non connection	109	HDATA10		
71	XDSPRST	I	Normally, set to "open".	110	HDATA9		
72	VSS	–	GND	111	HDATA8		
73	TEST5	O	Normally, set to "open".	112	HDATA7		
74	NC	–	Normally, set to "open".	113	HDATA6		
75	NC			114	VDD	–	2.5V power supply
76	NC			115	HDATA5	I/O	CPU data bus signal
77	NC			116	HDATA4		
78	SD7	I	Parallel data input	117	HDATA3		
79	VDD	–	2.5V power supply	118	HDATA2		
80	SD6	I	Parallel data input	119	VSS	–	GND
81	SD5			120	HDATA1	I/O	CPU data bus signal
82	SD4			121	HDATA0		CPU data bus signal (LSB)
83	SD3			122	BUSSEL	I	Bus width selection signal (0 : 8-bit bus, 1 : 16-bit bus)
84	SD2			123	XOSDACK	I	OSD data acknowledge signal
85	VSS	–	GND	124	XOSDREQ	O	OSD data request signal
86	SD1	I	Parallel data input	125	HCPUSEL1	I	CPU selection signal (00 :SPARC, 01 :86 system, 10 :68 system, 11 :Reserve)
87	SD0			126	HCPUSEL0		
88	XERR	I	Error input signal	127	XINT3	O	Interrupt request signal to the CPU
89	XSACK	I	Acknowledge signal	128	XINT2		
90	XTEST	I	Set to "H" at normal use	129	XINT1		
91	SREQ	O	Data request signal	130	VSS	–	GND

No.	Pin Name	I/O	Function	No.	Pin Name	I/O	Function
131	VDD	–	2.5V power supply	170	XMDRCAS	O	CAS signal for SDRAM
132	XINT0	O	Interrupt request signal to CPU	171	XMDRDQM1	O	Input mask / output enable signal for SDRAM
133	XEXTRDY	O	SPARC, 68 system : Ready signal to CPU 86 system : Acknowledge (ACK) signal to CPU	172	VSS	–	GND
134	HRW	I	CPU read / write signal	173	XMDRWE	O	Write enable signal for SDRAM
135	HCLKIN	I	Host clock input	174	XMDRDQM0	O	Input mask / output enable signal for SDRAM
136	XHCS	I	LSI chip select signal	175	MDRDAT8	I/O	Data bus signal for SDRAM
137	XHAS	I	SPARC, 68 system : CPU address strobe 86 system : CPU address status	176	VSS	–	GND
138	XHBE3	I	CPU byte enable signal	177	MDRDAT7	I/O	Data bus signal for SDRAM
139	XHBE2			178	MDRDAT9		
140	XHBE1			179	MDRDAT6		
141	XHBE0			180	MDRDAT10		
142	VSS	–	GND	181	MDRDAT5		
143	MDRADR4	O	Address signal for SDRAM	182	VSS	–	GND
144	MDRADR3			183	VDD	–	2.5V power supply
145	MDRADR5			184	MDRDAT11	I/O	Data bus signal for SDRAM
146	MDRADR2			185	MDRDAT4		
147	VDD	–	2.5V power supply	186	MDRDAT12		
148	VSS	–	GND	187	MDRDAT3		
149	MDRADR6	O	Address signal for SDRAM	188	MDRDAT13		
150	MDRADR1			189	VSS	–	GND
151	MDRADR7			190	MDRDAT2	I/O	Data bus signal for SDRAM
152	MDRADR0		Address signal for SDRAM (LSB)	191	MDRDAT14		
153	MDRADR8		Address signal for SDRAM	192	MDRDAT1		
154	VSS	–	GND	193	MDRDAT15		Data bus signal for SDRAM (MSB)
155	TEST6	I	"L" status normally	194	MDRDAT0	I/O	Data bus signal for SDRAM (LSB)
156	TEST7			195	VSS	–	GND
157	TEST8			196	N.C.	–	Non connection
158	TEST9			197	ICK27M	I	System clock input
159	MDRADR10	O	Address signal for SDRAM	198	VSS	–	GND
160	MDRADR9			199	OCK27M	O	System clock output
161	MDRADR11		Address signal for SDRAM (MSB)	200	VSSA(VCO)	–	GND (for VCO only)
162	XMDRCS	O	Chip select signal for SDRAM	201	VDDA(VCO)	–	2.5V power supply (for VCO only)
163	MDRCKE	O	Clock enable signal for SDRAM	202	ILPF	O	PLL block inverter output for audio
164	VSS	–	GND	203	MLPF	I	PLL block inverter input for audio
165	VDD	–	2.5V power supply	204	OLPF	O	Phase detector output for audio
166	XMDRRAS	O	RAS signal for SDRAM	205	OVCO	I	VCO input for audio clock
167	MDRCLK	O	Clock output signal for SDRAM	206	VSS	–	GND
168	VSS	–	GND	207	XPLLRST	I	PLL section reset signal
169	MDRCLKIN	I	Clock input signal for SDRAM	208	XSYNCRST	I	SYNC reset signal

■ PDC076A (MAIN ASSY : IC5501)

• Microcomputer IC

● Pin Function

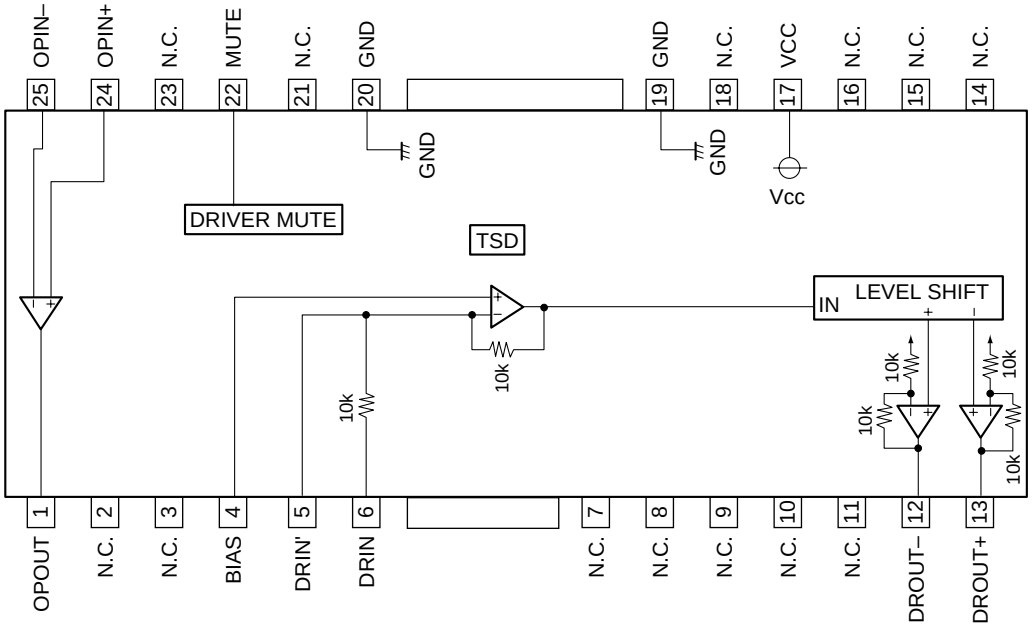
No.	Mark	Pin Name	I/O	Function
1	P16/T1PWML	XDSP MUTE	O	DSP mute output
2	P17/T1PWMH/BUZ	XCDC RST	O	CODEC reset
3	P30	CDC DO	O	CODEC Data
4	P31	CDC CK	O	CODEC Clock
5	P32	XCDC CS	O	CODEC Chip Select
6	P33	XDSP RST	O	DSP Reset
7	P34	XDSP SUB CS	O	DSP Chip Select (Sub)
8	P35	XDSP MAIN CS	O	DSP Chip Select (Main)
9	P36	WEN/DI	I/O	for DOWN LOAD
10	P37	WDO		
11	RES	XRESET		u-P Reset
12	XT1/AN10	XTESTMODE	I	system test mode input
13	XT2/AN11	3.3DETECT (A/D)	I	(DVD) 3.3V Detection
14	VSS1	GNDD	–	–
15	CF1	CF1		Crystal Oscillator
16	CF2	CF2		
17	VDD1	V+5E	–	–
18	P80/AN0	KEY 0	A/D	Button control (Disp. Assy)
19	P81/AN1	ST/TUNE	A/D	TUNER STEREO TUNED detection
20	P82/AN2	MODEL 0 (A/D)	A/D	Determine Model intended for
21	P83/AN3	FAN DET	A/D	Fan Detection
22	P84/AN4	KEY 1	A/D	Button control (Disp. Assy)
23	P85/AN5	JOG	A/D	(Disp. Assy)
24	P86/AN6	XSTBY LED	O	
25	P87/AN7	NC		
26	P70/INT0/T0LCP/AN8	AC	I	AC pulse detection
27	P71/INT1/T0HCP/AN9	LT11	I	(DVD)
28	P72/INT2/T0IN	RDS CK	I	RDS Clock
29	P73/INT3/T0IN	REMOCON	I	Remote control (Disp. Assy)
30	S0/T0	G01	O	Grid
31	S1/T1	G02		
32	S2/T2	G03		
33	S3/T3	G04		
34	S4/T4	G05		
35	S5/T5	G06		
36	S6/T6	G07		
37	S7/T7	G08		
38	S8/T8	G09		
39	S9/T9	G10		
40	S10/T10	G11		
41	S11/T11	G12		
42	S12/T12	G13		
43	S13/T13	NC		
44	S14/T14	NC		
45	S15/T15	NC		
46	VDD3	V+5E	–	–
47	S16/PC0	S01	O	Segment
48	S17/PC1	S02		
49	S18/PC2	S03		
50	S19/PC3	S04		

No.	Mark	Pin Name	I/O	Function
51	VP	GNDD	–	–
52	S20/PC4	S05		
53	S21/PC5	S06		
54	S22/PC6	S07		
55	S23/PC7	S08		
56	S24/PD0	S09		
57	S25/PD1	S10		
58	S26/PD2	S11		
59	S27/PD3	S12	O	Segment
60	S28/PD4	S13		
61	S29/PD5	S14		
62	S30/PD6	S15		
63	S31/PD7	S16		
64	S32/PE0	S17		
65	S33/PE1	S18		
66	S34/PE2	NC		
67	S35/PE3	EXP CLK	O	LED driver IC clock
68	S36/PE4	EXP DATA	O	LED driver IC data
69	S37/PE5	EXP CE	O	LED driver IC CE
70	S38/PE6	DIR ERR	I	DIR Error
71	S39/PE7	RDS DATA	I	RDS Data
72	VDD4	V+5E	–	–
73	S40/PF0	RYDE	I	SP Relay's ENABLE
74	S41/PF1	HP DETECT	I	Headphone Detect
75	S42/PF2	DIR DI	I	DIR Data In
76	S43/PF3	TX DATA	I	Data from PLL IC
77	S44/PF4	RDS ON/OFF	O	RDS IC oscillator ON/OFF
78	S45/PF5	TX MUTE	O	Tuner MUTE
79	S46/PF6	X AOUT MUTE	O	Audio Out mute
80	S47/PF7	NC	O	NC
81	S48/PG0	XDIR RST	O	DIR Reset
82	S49/PG1	POWER	O	system power control
83	S50/PG2	XRDY1	O	DVD MCU interface READY output
84	S51/PG3	DVD ON/OFF	O	DVD power control
85	P00	SYS CK	O	System Clock
86	P01	SYSDATA	O	System Data
87	P02	XDVDRST	O	DVD Reset
88	P03	XLINE MUTE	O	system audio MUTE
89	VSS2	GNDD	–	–
90	VDD2	V+5E	–	-–
91	P04	MAIN VOL CE	O	MAIN VOL IC M62446 CE
92	P05	PLL CE	O	PLL IC CE
93	P06	DIR CE	O	DIR Chip Enable
94	P07	WCLK	O	for DOWNLOAD
95	P10/SO0	DSP SO	O	DATA to YSS912
96	P11/SI0/SB0	DSP SI	I	DATA from YSS912
97	P12/SCK0	DSP CK	O	YSS912 (DSP) Clock
98	P13/SO1	SSI	O	Data to DVD MCU
99	P14/SI1/SB1	SSO1	I	Data from DVD MCU
100	P15/SCK1	SSCK	O	DVD MCU clock

■ BA6195FP (MAIN ASSY : IC8901)

• Optical Disc IC

● Block Diagram



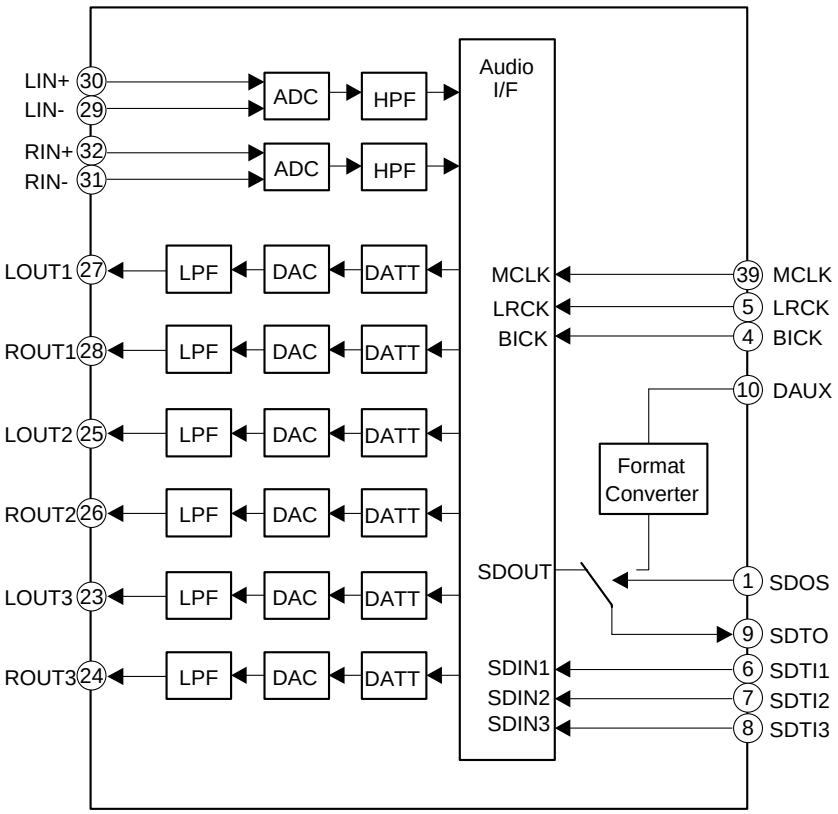
● Pin Function

No.	Pin Name	Function	No.	Pin Name	Function
1	OPOUT	Operational amplifier output	14	N.C.	Non connection
2	N.C.	Non connection	15	N.C.	Non connection
3	N.C.	Non connection	16	N.C.	Non connection
4	BIAS	Bias	17	VCC	Vcc
5	DRIN'	Driver gain adjustment	18	N.C.	Non connection
6	DRIN	Driver gain input	19	GND	Substrate ground
7	N.C.	Non connection	20	GND	Substrate ground
8	N.C.	Non connection	21	N.C.	Non connection
9	N.C.	Non connection	22	MUTE	Mute
10	N.C.	Non connection	23	N.C.	Non connection
11	N.C.	Non connection	24	OPIN+	Operational amplifier noninverting input
12	DROUT-	Driver negative (relative to input) output	25	OPIN-	Operational amplifier inverting input
13	DROUT+	Driver positive (relative to input) output			

■ AK4527BVQ (DSP ASSY : IC3751)

• High Performance Multi-channel Audio CODEC

● Block Diagram



● Pin Function

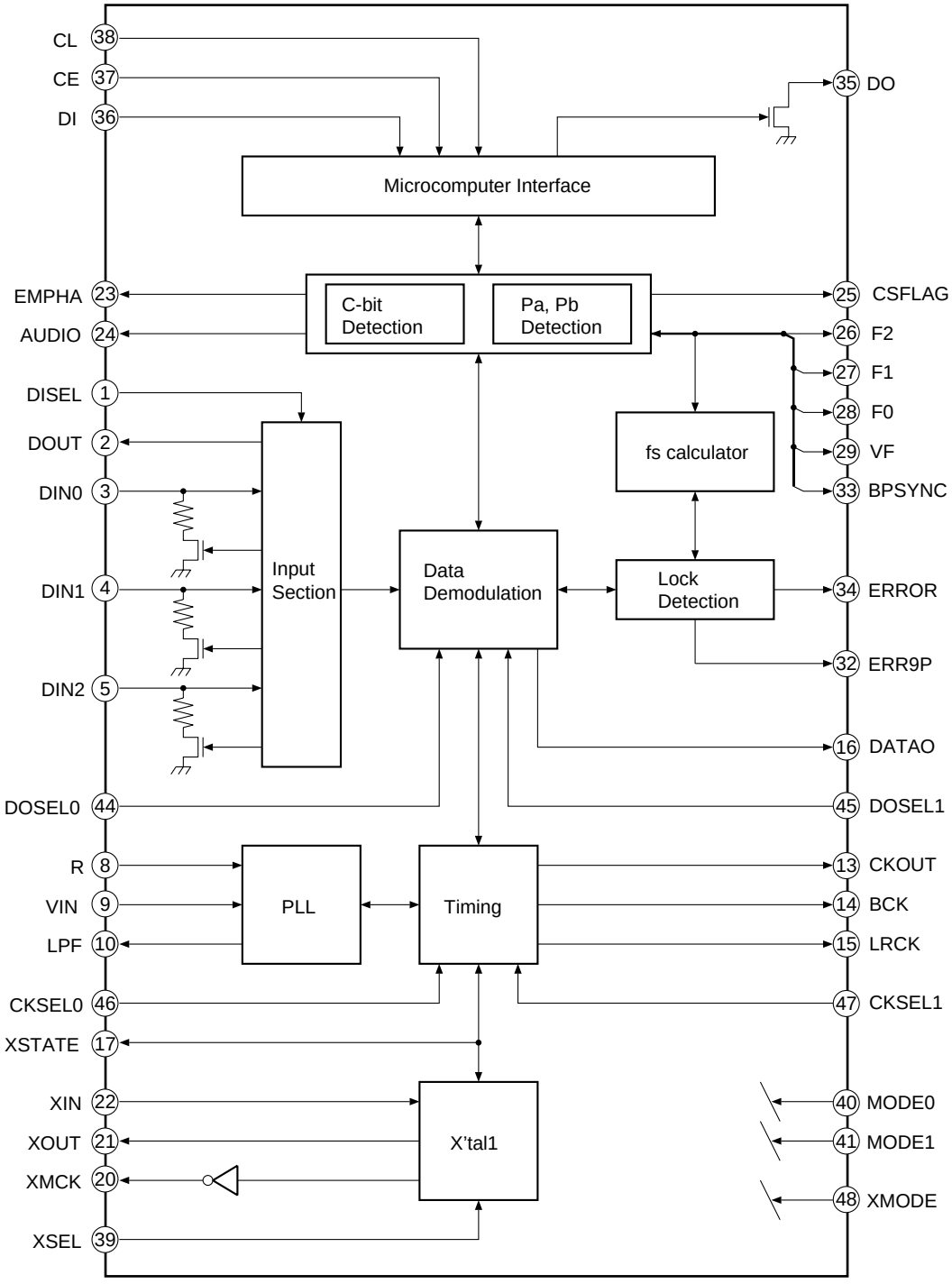
No.	Pin Name	I/O	Function
1	SDOS	I	SDTO source selection L: Internal ADC output, H: DAUX input
2	I2C	I	Serial control mode selection L: 3-lines serial, H: I²C bus
3	SMUTE	I	Soft mute H: Start the soft mute, L: Cancel
4	BICK	I	Audio serial data clock
5	LRCK	I	Input channel clock
6	SDTI1	I	DAC1 audio serial data input
7	SDTI2	I	DAC2 audio serial data input
8	SDTI3	I	DAC3 audio serial data input
9	SDTO	O	Audio serial data output
10	DAUX	I	Auxiliary audio serial data input
11	DFS	I	Double speed sampling mode L: Normal speed, H: Double speed
12	NC	–	No connect
13	DZFE	I	Effective pin of zero input detection function L: mode 7 (disable) at parallel mode and selectable with DZFM2-0 at serial mode H: mode 0 (Output it from DZF1 with AND of 6ch)
14	TVDD	–	Power supply for output buffer, 2.7V to 5.5V
15	DVDD	–	Digital power supply, 4.5V to 5.5V
16	DVSS	–	Digital ground, 0V
17	PDN	I	Power down & reset It becomes powered down state when turns this pin into L, and a register is initialized. Reset it with PDN pin when switched P/S and CAD0-1.

No.	Pin Name	I/O	Function
18	TST	I	Test pin Connect to DVSS.
19	NC	–	No connect
20	ADIF	I	Analog input form selection H: Differential input, L: Single end input
21	CAD1	I	Chip address 1 pin
22	CAD0	I	Chip address 0 pin
23	LOUT3	O	L ch analog output of DAC3
24	ROUT3	O	R ch analog output of DAC3
25	LOUT2	O	L ch analog output of DAC2
26	ROUT2	O	R ch analog output of DAC2
27	LOUT1	O	L ch analog output of DAC1
28	ROUT1	O	R ch analog output of DAC1
29	LIN-	I	L ch analog inverting input
30	LIN+	I	L ch analog non-inverting input
31	RIN-	I	R ch analog inverting input
32	RIN+	I	R ch analog non-inverting input
33	DZF2	O	Zero input detection 2 It becomes H when the input data of group 2 is 8192 times of zero continuously or RSTN bit is 0.
	OVF	O	Analog input overflow detection It becomes H when analog inpu of L ch or R ch is overflowed.
34	VCOM	O	Common voltage input, AVDD/2 Install a capacitor which is high capacitance (about 2.2μF) to eliminate the power supply noise.
35	VREFH	I	Reference voltage input, AVDD
36	AVDD	–	Analog power supply, 4.5V to 5.5V
37	AVSS	–	Analog ground, 0V
38	DZF1	O	Zero input detection 1 It becomes H when the input data of group 1 is 8192 times of zero continuously or RSTN bit is 0.
39	MCLK	I	Master clock input
40	P/S	I	Parallel / serial selection L: Serial control mode, H: Parallel control mode
41	DIF0	I	Audio data interface format 0 (at parallel control mode)
	CSN	I	Chip select (at 3-lines serial control mode) Connect to DVDD at I^2C bus control mode.
42	DIF1	I	Audio data interface format 1 (at parallel control mode)
	SCL/CCLK	I	Control data clock (at serial control mode) I2C= L: CCLK (3-lines serial), I2C=H: SCL (I^2C bus)
43	LOOP0	I	Loop back mode 0 (at parallel control mode) Validate the digital loop back from ADC to all DAC.
	SDA/CDTI	I/O	Control data input (at serial control mode) I2C= L: CDTI (3-lines serial), I2C=H: SDA (I^2C bus)
44	LOOP1	I	loop back mode 1 Input from SDTI1 to all DAC.

■ LC89056W-E (DSP ASSY : IC8801)

• Digital Audio Interface Receiver

● Block Diagram



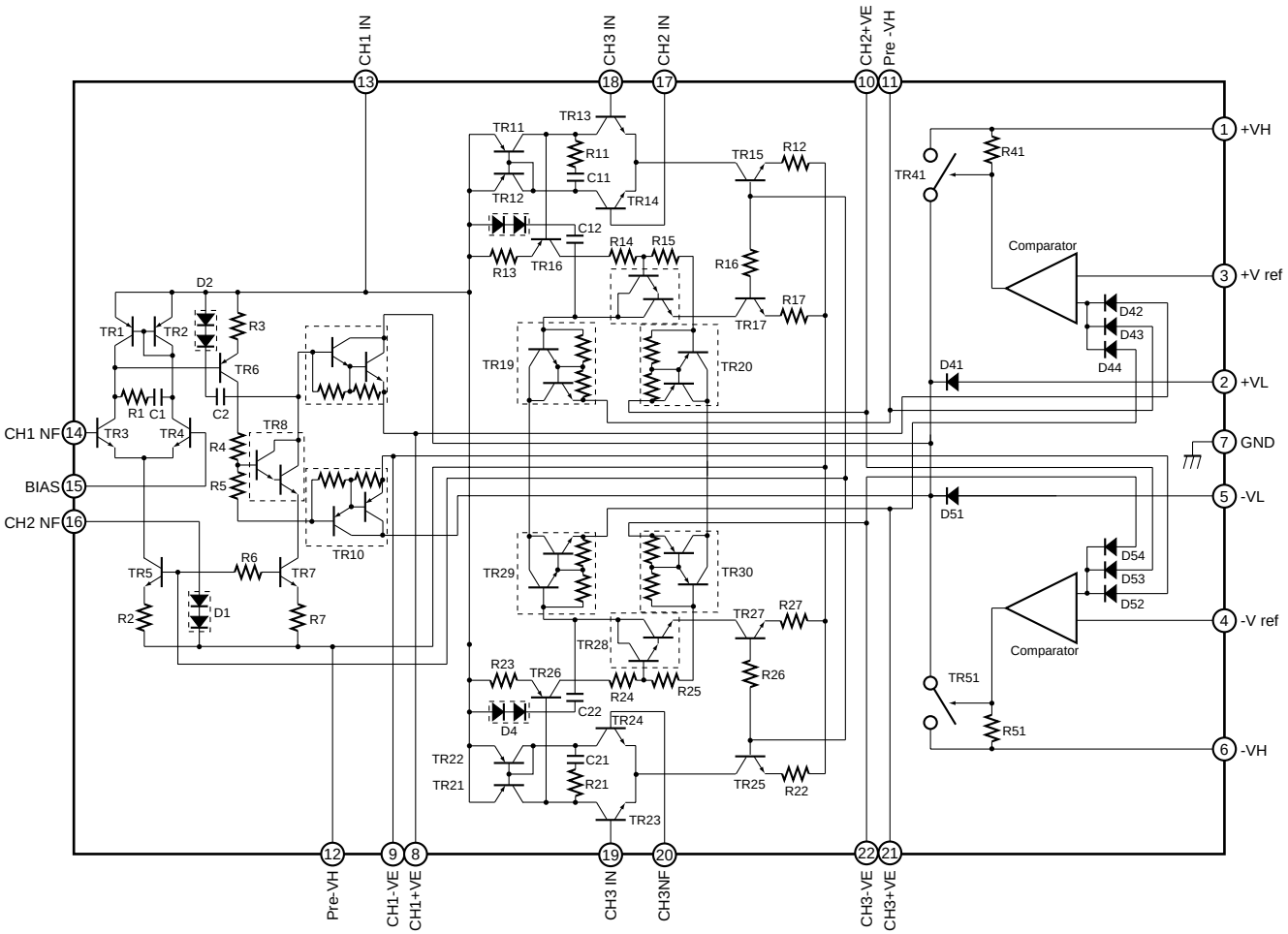
● Pin Function

No.	Pin Name	I/O	Function
1	DISEL	I	Select input of data input pin (DIN0 and DIN1)
2	DOUT	O	Input biphase data through output
3	DIN0	I	Digital data input (TTL input, pull-down resistor)
4	DIN1		
5	DIN2		
6	DGND	–	Digital GND
7	DVDD	–	Digital power supply (3.3V)
8	R	I	VCO gain control input
9	VIN	I	Setting input of VCO free-running frequency
10	LPF	O	PLL loop filter setting output
11	AVDD	–	Analog power supply (3.3V)
12	AGND	–	Analog GND
13	CKOUT	O	Clock output (256fs, 384fs, 512fs, crystal oscillation, VCO free-running oscillation)
14	BCK	O	64fs clock output
15	LRCK	O	fs clock output (L= R ch, H= L ch, I^2S= inversion)
16	DATAO	O	Data output
17	XSTATE	O	Source clock switching monitor output
18	DGND	–	Digital GND
19	DVDD	–	Digital power supply (3.3V)
20	XMCK	O	Crystal oscillation clock output (12.288MHz or 24.576MHz)
21	XOUT	O	Crystal oscillator connection output
22	XIN	I	Crystal oscillator connection input (12.288MHz or 24.576MHz)
23	EMPHA	O	Emphasis information output of channel status
24	AUDIO	O	Bit 1 (non-PCM data detection bit) output of channel status
25	CSFLAG	O	Lead 40-bit update flag output of channel status
26	F0	O	Calculation result output of input fs
27	F1		
28	F2		
29	VF	O	Validy flag output
30	DVDD	–	Digital power supply (3.3V)
31	DGND	–	Digital GND
32	ERR9P	O	Nine times continuous data transfer error flag output (L= error)
33	BPSYNC	O	Sync. signal output of non-PCM burst, preamble Pa, Pb, Pc, Pd
34	ERROR	O	PLL lock error, data error flag output (H= error)
35	DO	O	Readout data output of microcomputer IF
36	DI	I	Writing data input of microcomputer IF
37	CE	I	Chip enable input of microcomputer IF
38	CL	I	Clock input of microcomputer IF
39	XSEL	I	Select input of [XIN] crystal oscillator frequency (24.576MHz or 12.288MHz)
40	MODE0	I	Mode setting input
41	MODE1		
42	DGND	–	Digital GND
43	DVDD	–	Digital power supply (3.3V)
44	DOSEL0	I	Select input of output data format
45	DOSEL1		
46	CKSEL0	I	Select input of output clock
47	CKSEL1		
48	XMODE	I	System reset input

■ STK413-000 (FRONT AMP ASSY : IC3301)

- **Power Amplifier**

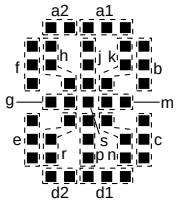
● Block Diagram



7.2.2 DISPLAY

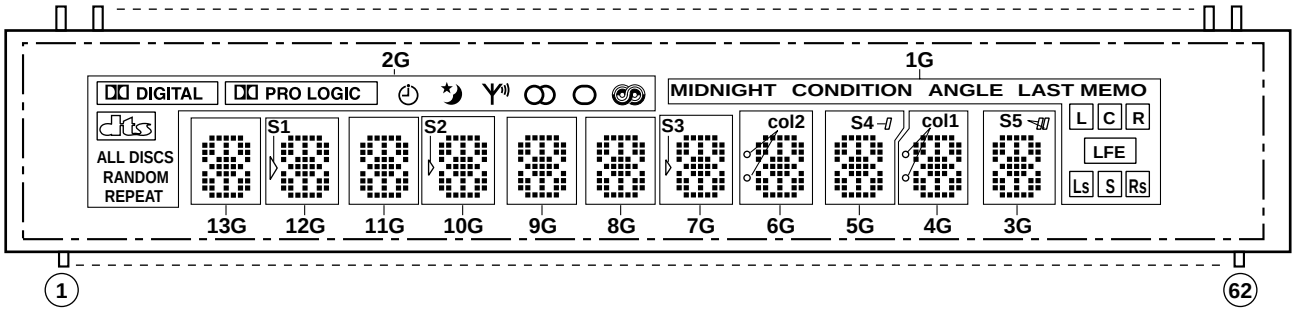
■ XAV3011 (DISPLAY ASSY :V5801)

• FL DISPLAY



(3G - 13G)

● Pin Assignment



● Anode Connection

	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	—	S1	—	S2	—	—	S3	col2	S4	col1	S5	REPEAT	MIDNIGHT
P2	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1	a1	RANDOM	CONDITION
P3	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	a2	S	ANGLE
P4	b	b	b	b	b	b	b	b	b	b	b	DISC	LAST MEMO
P5	h	h	h	h	h	h	h	h	h	h	h	ALL	L
P6	j	j	j	j	j	j	j	j	j	j	j	dts	C
P7	k	k	k	k	k	k	k	k	k	k	k	DIGITAL	R
P8	f	f	f	f	f	f	f	f	f	f	f	PRO LOGIC	Rs
P9	g	g	g	g	g	g	g	g	g	g	g		LFE
P10	s	s	s	s	s	s	s	s	s	s	s		S
P11	m	m	m	m	m	m	m	m	m	m	m		Ls
P12	c	c	c	c	c	c	c	c	c	c	c		——
P13	r	r	r	r	r	r	r	r	r	r	r		——
P14	p	p	p	p	p	p	p	p	p	p	p		——
P15	n	n	n	n	n	n	n	n	n	n	n	——	——
P16	e	e	e	e	e	e	e	e	e	e	e	——	——
P17	d1	d1	d1	d1	d1	d1	d1	d1	d1	d1	d1	——	——
P18	d2	d2	d2	d2	d2	d2	d2	d2	d2	d2	d2	——	——

● Pin Connection

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Connection	F1	F1	NP	NP	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2
Pin No.	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
Connection	P1	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX
Pin No.	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	
Connection	NX	NX	NX	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F2	F2	

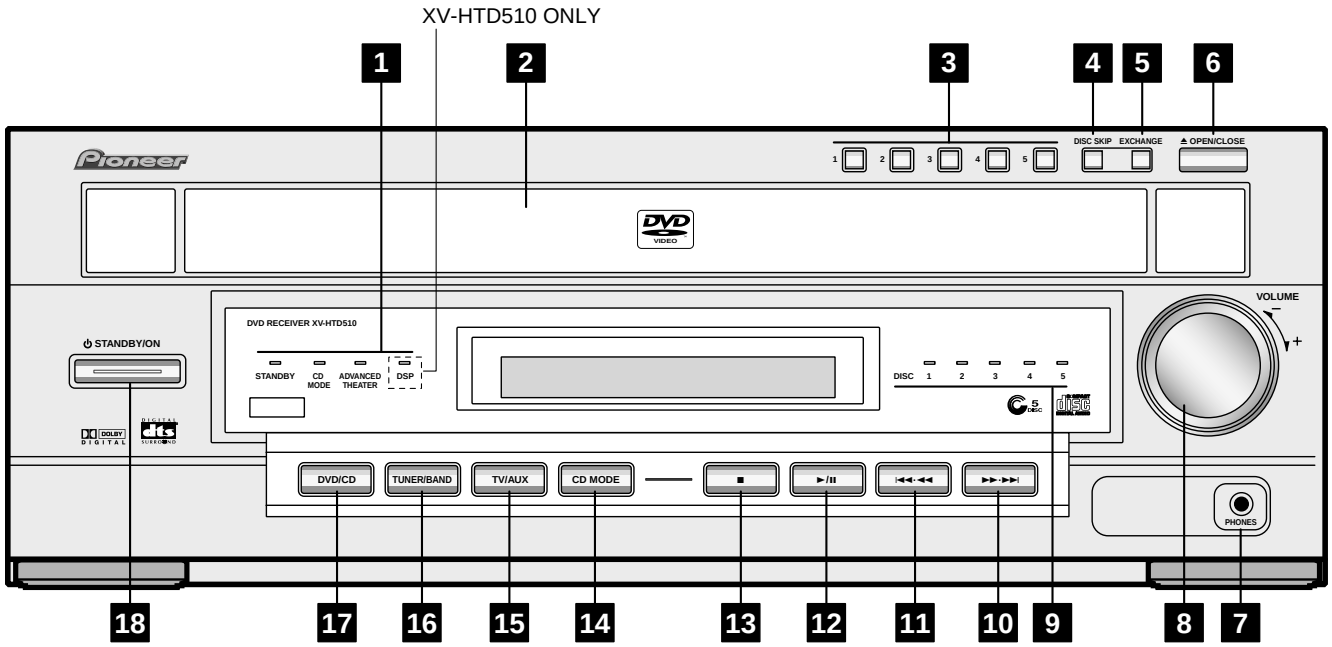
Note

(1) F1, F2 : Filament
(2) NP : No pin
(3) NX : No extend pin
(4) DL : Datum Line
(5) 1G to 13G : Grid

8. PANEL FACILITIES AND SPECIFICATIONS

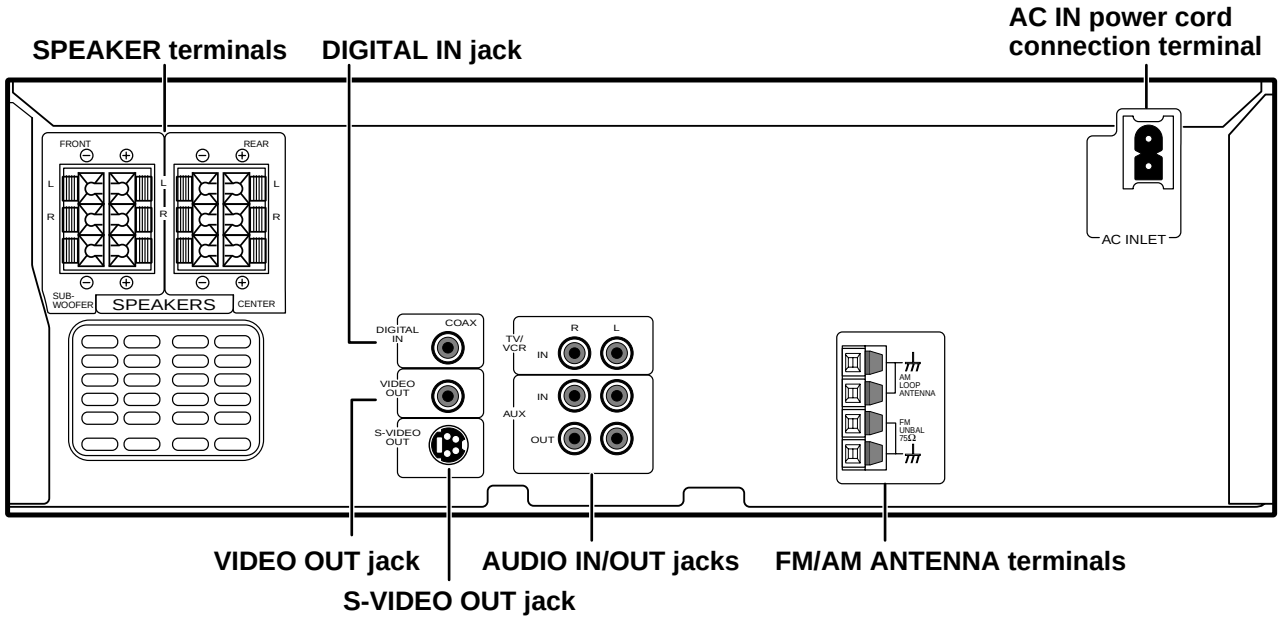
8.1 PANEL FACILITIES

■ Front Panel

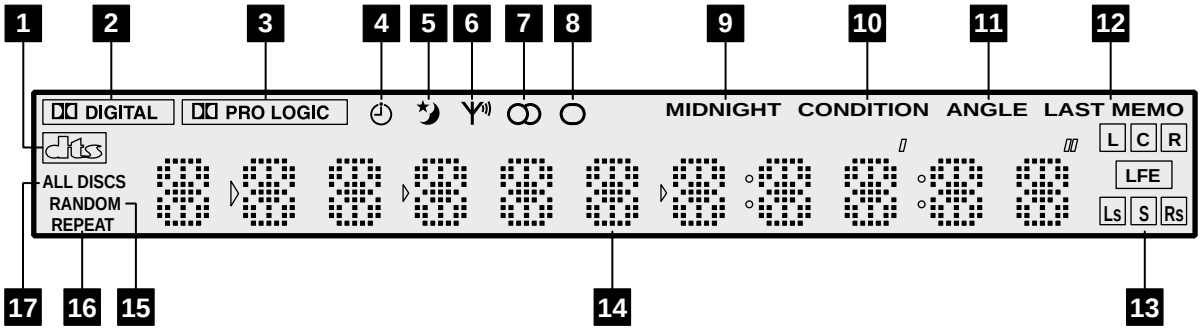


1 **STANDBY** indicator
CD MODE indicator
ADVANCED THEATER indicator
DSP indicator (XV-HTD510 only)
2 Disc tray
3 Disc buttons
4 **DISC SKIP**
5 **EXCHANGE**
6 **▲ OPEN/CLOSE**
7 **PHONES** Plug in a pair of headphones here.
8 **VOLUME** Turn to adjust the volume.
9 **DISC** indicators
10 **►► • ►►|**
11 **|◄◄ • ◄◄**
12 **►/II**
13 **■**
14 **CD MODE**
15 **TV/AUX (/DIGITAL IN)**
16 **TUNER/BAND**
17 **DVD/CD**
18 **STANDBY/ON**

■ Rear Panel

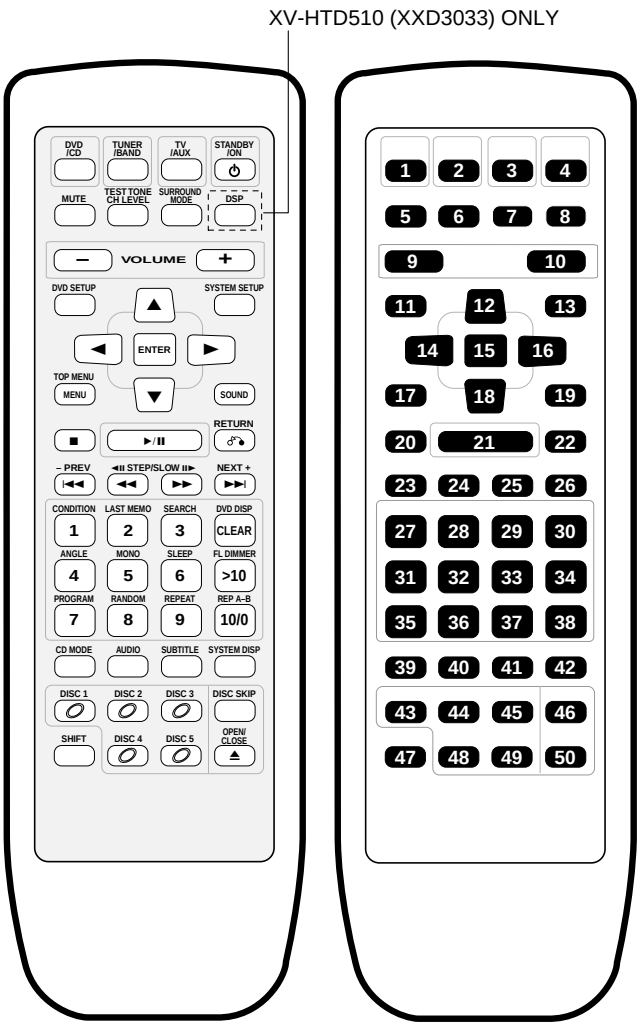


■ Display



1 **DTS**
2 **DIGITAL**
3 **PRO LOGIC**
4 Timer indicator
5 Sleep indicator
6 Tuned indicator
7 FM stereo indicator
8 FM mono indicator
9 **MIDNIGHT**
10 **CONDITION**
11 **ANGLE**
12 **LAST MEMO**
13 Channel indicators Show which channels are available on the current disc.
14 Character display When playing discs : Left to right displays disc number, title, chapter/track, minutes, seconds.
15 **RANDOM**
16 **REPEAT**
17 **DISC : ALL DISCS** Indicates the random or repeat mode;

■ Remote Control Unit



1 **DVD/CD**
2 **TUNER/BAND**
3 **TV/AUX**
4 **STANDBY/ON**
5 **MUTE** Silences/restores all sound.
6 **TEST TONE/CH LEVEL**
7 **SURROUND MODE**
8 **DSP** (XV-HTD510 only)
9 **VOLUME –** Lowers the volume.
10 **VOLUME +** Raises the volume.
11 **DVD SETUP**
12 Cursor up Use for navigating menus and on-screen displays.
13 **SYSTEM SETUP**
14 Cursor left Use for navigating menus and on-screen displays.
15 **ENTER**
16 Cursor right Use for navigating menus and on-screen displays.
17 **MENU**
TOP MENU
18 Cursor down Use for navigating menus and on-screen displays.
19 **SOUND**
20 ■
21 **►/II**
22 **RETURN**
23 **I◄◄ / – PREV**
24 **◄◄ / STEP/SLOW ◄II**
25 **►► / STEP/SLOW II►**
26 **►►I / NEXT+**
27 **1 / CONDITION (SHIFT & 1)**
28 **2 / LAST MEMO (SHIFT & 2)**
29 **3 / SEARCH (SHIFT & 3)**
30 **CLEAR** Clears/cancels various functions
DVD DISP (SHIFT & CLEAR)
31 **4 / ANGLE (SHIFT & 4)**
32 **5 / MONO (SHIFT & 5)**
33 **6 / SLEEP (SHIFT & 6)**
34 >10 Selects numbers over 10
FL DIMMER (SHIFT & >10)
35 **7 / PROGRAM (SHIFT & 7)**
36 **8 / RANDOM (SHIFT & 8)**
37 **9 / REPEAT (SHIFT & 9)**
38 **REP A–B (SHIFT & 10/0)**
10/0 Number button (10 and 0)
39 **CD MODE**
40 **AUDIO**
41 **SUBTITLE**
42 **SYSTEM DISP**
43 **DISC 1**
44 **DISC 2**
45 **DISC 3**
46 **DISC SKIP**
47 **SHIFT** Hold down to access secondary button functions
48 **DISC 4**
49 **DISC 5**
50 **OPEN/CLOSE ▲**

8.2 SPECIFICATIONS

Amplifier Section

Continuous power output (RMS)
- Front ..... 100 W, per channel ..... (1 kHz, 10 % T.H.D., 8 Ω)
- Rear ..... 33 W, per channel ..... (1 kHz, 10 % T.H.D., 8 Ω)
- Center ..... 34 W, per channel ..... (1 kHz, 10 % T.H.D., 8 Ω)
- Subwoofer ..... 100W (100Hz 10% T.H.D., 8Ω)

DVD Player (Audio) Section

S/N ratio ..... 115 dB (EIAJ)
Dynamic range ..... 100 dB (EIAJ)
Distortion 0.004%
Frequency response
- 48 kHz sampling ..... 4 Hz to 22 kHz
- 96 kHz sampling ..... 4 Hz to 44 kHz

Wow & flutter ..... Below measurable levels (±0.001% W.PEAK)

DVD Player (Video) Section

Output level ..... 1 Vp-p (75 Ω)
Video Y output level ..... 1 Vp-p (75 Ω)
Video C output level ..... 286 mVp-p (75 Ω)

DVD (Other jacks) Section

Digital coaxial input (PCM/□□/DTS) ..... Coaxial connector

Tuner Section

FM tuner
- Frequency range ..... 87.5 MHz to 108.0 MHz
- Antenna ..... 75 Ω unbalanced

AM tuner
- Frequency range ..... 530 kHz to 1,700 kHz (10 kHz step)
- Antenna ..... loop antenna (supplied)

Power Supply Section

Power requirements ..... AC 120 V, 60 Hz
Power consumption ..... 166 W
Power consumption in standby mode ..... 1 W

Miscellaneous

DVD Receiver
- Dimensions ..... 420 (W) x 410.4 (D) x 150 (H) mm ..... 16 9/16(W) 16 3/16 (D) 5 7/8 (H) in.
- Weight ..... 9.5 kg (20 lbs 15 oz.)

Supplied Items

Remote control 1
AA/R6P dry cell batteries 2
AM loop antenna 1
FM antenna 1
Video cord (yellow) 1
Power cord 1
Operating instructions 1
Warranty card 1

Note:

• *Specifications and design subject to possible modification without notice, due improvements.*

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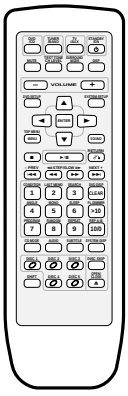
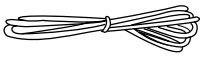
■ Accessories

● Remote Control Unit × 1
(XV-HTD510 : XXD3033)
(XV-HTD510-B : XXD3032)

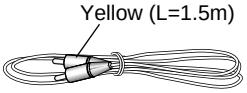


● FM Antenna × 1
(ADH7004)

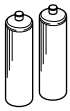


● AM Loop Antenna × 1
(ATB7009)

● Video Cord × 1
(VDE1053)



● AA/R6P Dry Cell Batteries × 2
(VEM-013)



● Power Cord × 1
(ADG7022)